

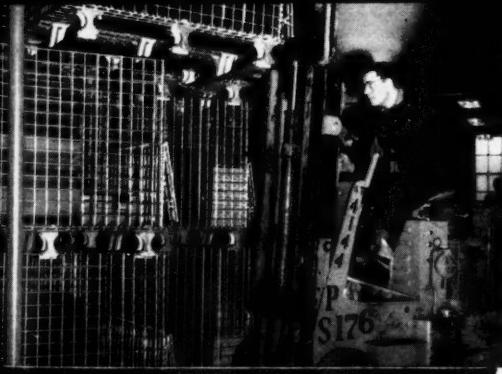
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FORE BASIC MONTHLY FORGE

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JULY 1975



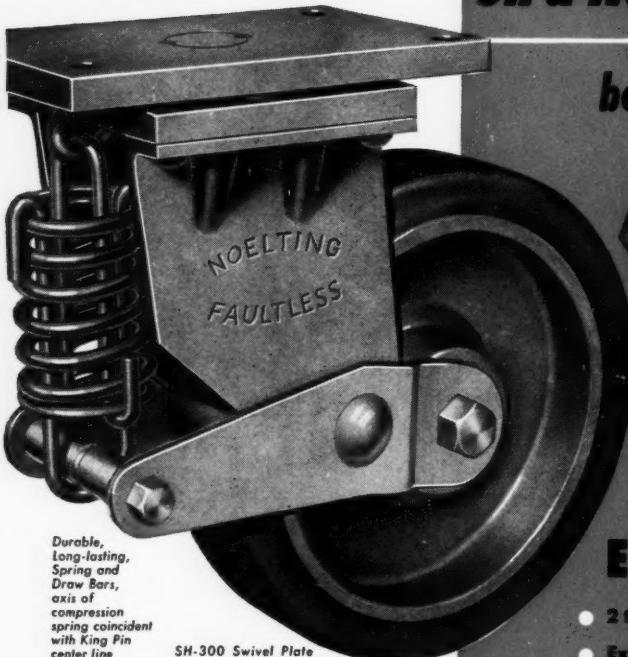
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here's

LOAD PROTECTION on a New Level of Efficiency



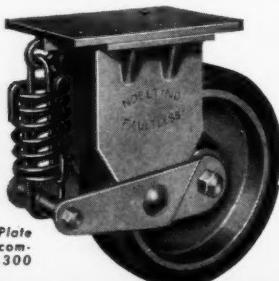
Durable,
Long-lasting,
Spring and
Draw Bars,
axis of
compression
spring coincident
with King Pin
center line
to equalize
load force

SH-300 Swivel Plate
Truck Caster shown
with Vulcanized Rubber
Tread Wheel



Note how large, long-lasting spring compensates for
floor irregularities, eliminates bounce or shock, pro-
tects both load and caster.

SH-700 Rigid Plate
Truck Caster com-
panion to SH-300
Series



because ONLY

Faultless

SPRING
ACTION
CASTERS

have these
EXCLUSIVE FEATURES

- 2 to 1 Lever Arm reduces shock—lengthens Spring life.
- Extended Wheel Offset for easier swiveling.
- Shock absorbing spring under compression lengthens life of bearings, raceways, wheel, etc.
- Springs of various load capacities easily interchanged to suit requirements.
- Standard Wheels, 3 types, easily interchanged.

This unique caster construction maintains a level load on trucks moving over irregular floors. Wheels contact floor surface at all times—eliminate bounce—don't raise truck when mounting obstacles.

Already time-tested by leading industrial engineers, this Caster is acclaimed for its use of standard, interchangeable wheels . . . absorption of high impact shocks through use of a large, durable spring under constant compression . . . spring and draw bar assembly a separate member. Write for catalog data with complete load capacities and specifications.



SH Casters take jolts out of water tanks for loading Air Lines.



SH Casters cushion mechanisms of jet engines moved over rough floors.

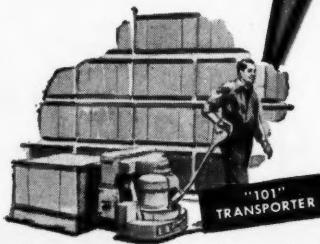
FAULTLESS CASTER CORPORATION

DEPT. MM-4, EVANSVILLE 7, INDIANA

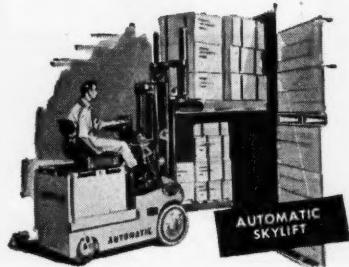
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Let the Figures Prove How Much More You Save With "Keyed-For-the-Job" Automatic Trucks



Moves tons of your product at the touch of a button . . . raise load to moving height in seconds . . . works all day for as little as pennies.



Lifts, moves and tiers material 132 inches from floor to top of fork. Drives and operates like an automobile—speeds up operation—reduces operator fatigue.

There's only one RIGHT truck for each material handling job . . . and Automatic has the experience and know how that saves you money with trucks "Keyed-For-the-Job"

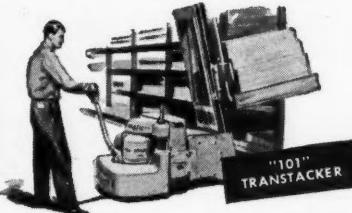
BEFORE you buy any material handling truck, be sure it's "keyed-for-the-job" in your plant. A truck which is either too big, too small, or inadequate for efficiently handling your particular product, may not save you enough material handling money to pay its cost within a reasonable time. Or those savings may be delayed longer.

The way to be sure you get money-saving performance that lets you write off its investment quickly, is to take a look at how many more electric trucks Automatic has to offer . . . how many more ingenious de-

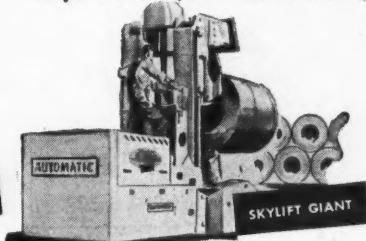
vices it has to fit whatever "tough" handling problem you have.

From the smallest to the largest truck . . . from the lightest to the heaviest products to be moved, lifted or tiered, expect the right truck from Automatic...an electric truck "keyed-for-your-job," and *your job alone!*

That is the secret of really cutting material handling costs. Put Automatic electric trucks to work in your plant, and let the figures prove that Automatic Trucks cost so little to operate, so little to maintain. Mail coupon for facts on Automatic "Keyed-for-the-job" electric trucks.



Ability to maneuver in crowded quarters makes this model ideal for operation in narrow aisles, and in areas where floor or elevator capacities are limited.



Designed for heavy duty handling requirements, the Skylift Giant is available in capacities ranging from 20,000 pounds to 80,000 pounds.

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Send me facts on Automatic "Keyed-for-the-Job" Electric Trucks.
 Have an Automatic representative call and give me a preliminary estimate of material handling savings using Automatics in my plant.

Company Name.....

By..... Title.....

Street Address..... Zone..... State.....

City.....

WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC INDUSTRIAL TRUCKS

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B.C.* fable of floor space that wasn't there



Once upon a time, back in the olden days BC* (Before Cargotainers) there was a Widget manufacturer with a fine reputation in the trade. His sales policies were sound; his quality good; his prices right.

Yet this doughty Widgetteer had much to worry about. He found himself falling behind his competitors in cost-cutting methods and new product development. What he really needed was more machinery.

Now, the cost of the new equipment didn't bother him much . . . it was the floor space to put it in that had him baffaloed. He couldn't find it, and he couldn't afford a new building without raising prices.

until this factory found it by going A.C.*



Then the Cargotainer salesman called and the sun began to shine again. Mr. Widget-maker learned how his raw materials, sub-assemblies and finished products could be vertically and visibly stored in Cargotainers. Accurate inventories became easy.

Not only did this compact new storage method save the space he needed, all materials and parts remained in their rugged, folding Cargotainers as they moved to assembly line and shipment. Safety records went way up and costs came tumbling down.

Moral: If, by chance, you are BC, you can save space by going AC* (After Cargotainers). Our Materials Handling Engineers will show you how. Write today. Dept. F, Pittsburgh Steel Products Company, Grant Building, Pittsburgh 30, Pa.



CARGOTAINERS

by Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

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FLOW

BASIC MONTHLY

VOL. 7, NO. 10

JULY, 1952

FLOW is not the official publication of any group, society or other special interest; its editorial pages are unbiased and undominated.

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**"That load
of **NOTHING**
makes a mighty wasteful trip!"**

RECTOX® chargers kill such waste

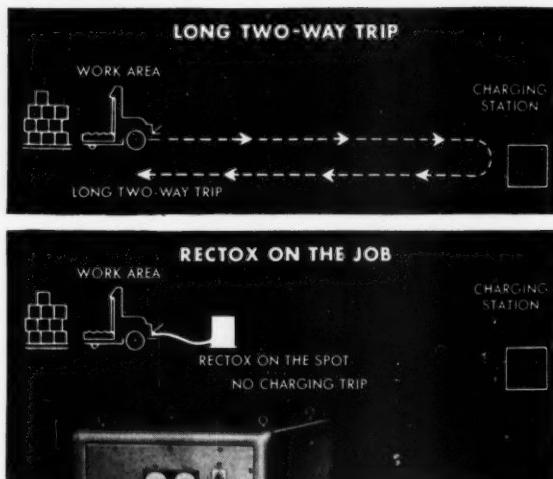
Eliminate long trips to central charging stations . . . they're wasteful, unnecessary! Locate Rectox chargers at strategic points throughout your plant . . . gain maximum service and maximum saving with on-the-spot charging.

Rectox chargers can be operated by anyone . . . anywhere there's an a-c outlet. Designed for automatic operation, you just plug 'em in—forget 'em! Other features:

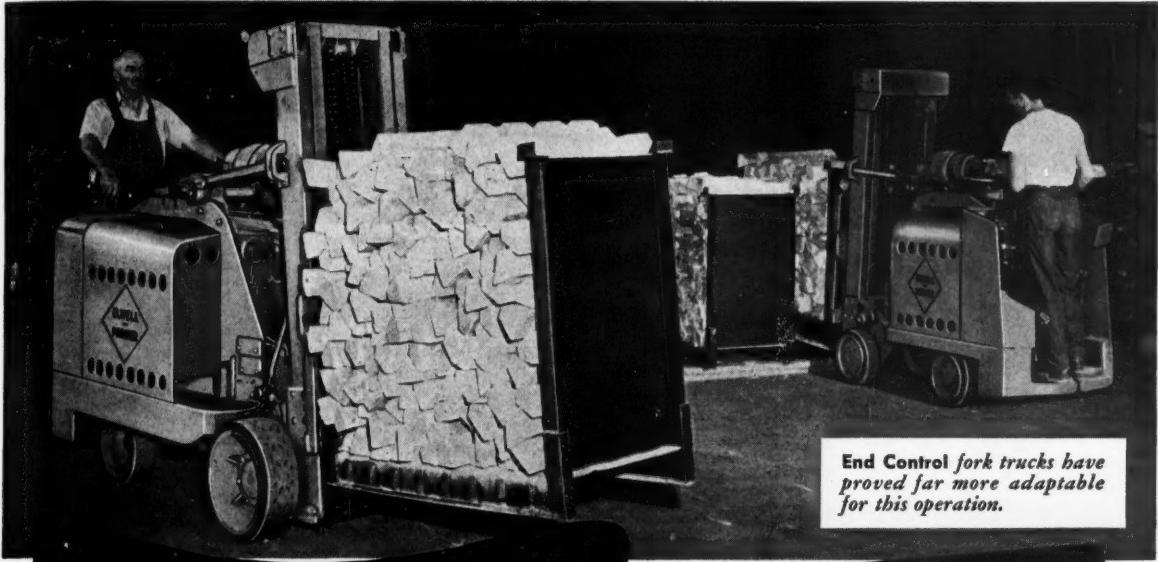
- ★ Units have heavy industrial construction . . . give long life with low maintenance
- ★ No taps to change, charging cycle is completely automatic
- ★ No energy-wasting resistor. No moving parts.

MORE DATA? Ask your Westinghouse representative for a copy of DB-19-040 or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-21679



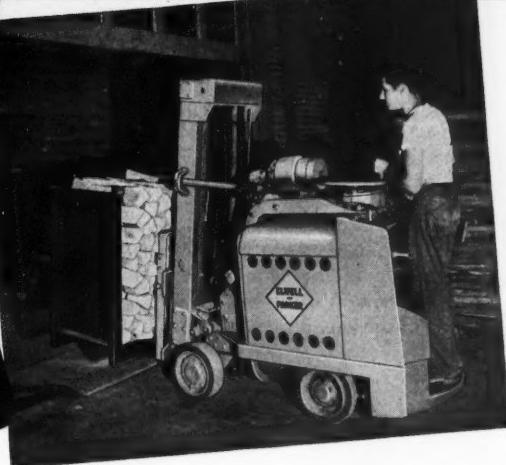
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End Control fork trucks have proved far more adaptable for this operation.

10 Times Less Labor WITH **ELWELL-PARKER TRUCKS**

—in production of vital defense metal



"More Magnesium for Jet Aircraft and Guided Missiles!" To meet that urgent need, a prominent magnesium company has accelerated production at its 29-acre plant. Elwell-Parker electric fork trucks play a major role in this all-out job.

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On critical defense operation such as this, the famed dependability of Elwell-Parker trucks really pays off. Built-in quality insures 15 to 20 years of steady truck service. Easy accessibility of all parts simplifies preventative maintenance that assures dependable and continuous performance. For advice about your specific needs, request Elwell-Parker's *Industrial Logistics Service*. Write The Elwell-Parker Electric Co., 4237 St. Clair Avenue, Cleveland 3, Ohio.



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in detail. Send for
your copy NOW.

ELWELL-PARKER
POWER INDUSTRIAL TRUCKS

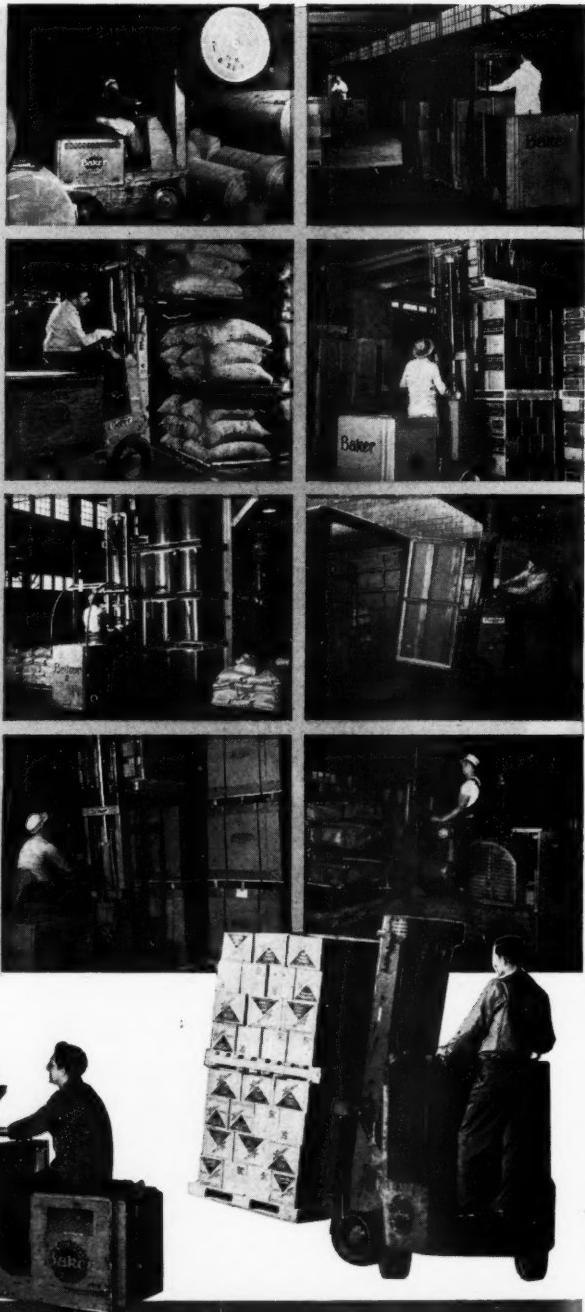
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Time and manpower savings, increased storage capacity, faster assembly and delivery of orders, simplified inventory, less damage to material handled, greater personnel safety, lower demurrage-costs in unloading operations—these are but a few of the benefits you get with BAKER TRUCKS.



Mail this coupon and let us send you documented case histories to prove our point.

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INDUSTRIAL TRUCKS

The Baker-Raulang Company

1219 West 80th Street, Cleveland 2, Ohio

Please send me proof of warehouse savings with Baker Trucks.

Name Title

Company

City State

Type of Material Stored

The
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NAME
for the
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SERVICE



TRUSCON... a name you can build on

Truscon Steel Boxes and Skids

Truscon has scores of different types of steel boxes and skids to meet a wide range of materials handling requirements. And if your needs are something special, Truscon has the engineering ability to tailor-make the exact units you require. Truscon's long experience in steel box and skid design . . .



*The Truscon
Pressed Steel Division's
central location assures quick,
efficient service for your needs.*

Truscon's highly efficient facilities for production and service . . . Truscon's long association with box users in every branch of materials handling . . . these are *plus* features that make your dollar investment in Truscon Steel Boxes and Skids so much more profitable. Write for catalog showing wide range of Truscon Boxes available, and ask for an experienced Truscon man to help plan your needs efficiently.

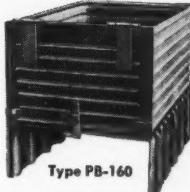
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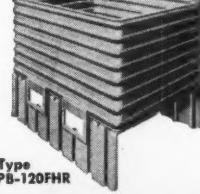
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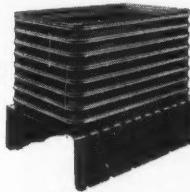
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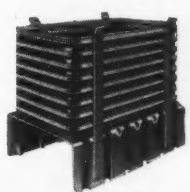
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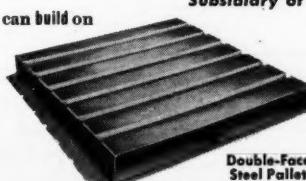
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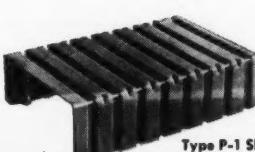
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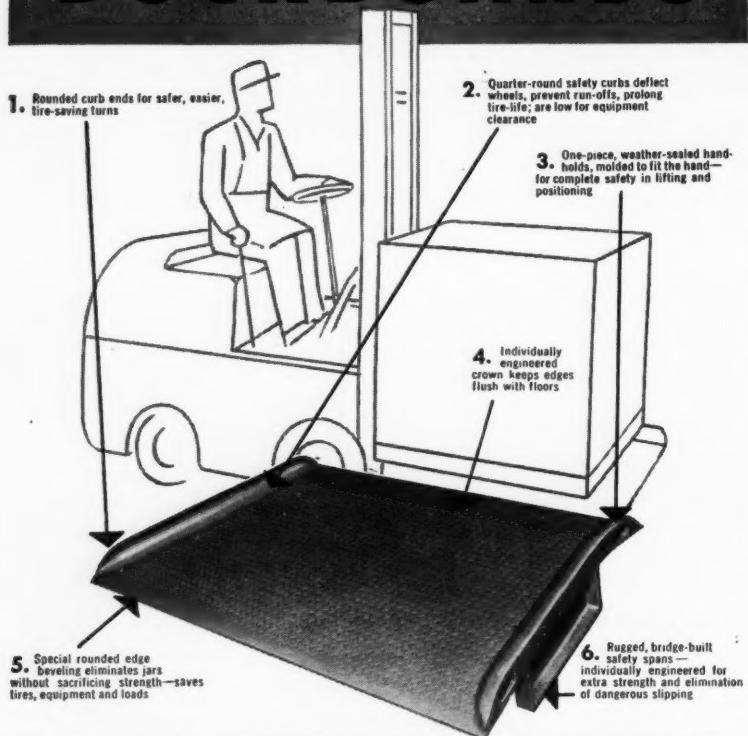
Double-Face
Steel Pallet



Type P-1 Skid Platform

LETTERS to the editors

You can SEE 6 Exclusive Money-Saver Features in MAGCOA *light-weight* HEAVY-DUTY DOCKBOARDS



Light-weight HEAVY-DUTY Magnesium Construction

($\frac{1}{4}$ the weight of steel) with resulting increases in efficiency and safety . . . individually engineered for your requirements . . . long life that you can take for granted: these are the other money-saver features that make Magcoa Dockboards a good investment right from the start and your best investment in the long run.

Write today for literature showing why many leading companies standardize on Magcoa Dockboards for freight car and truck loading, how they benefit . . . and how you can, too. At the same time, ask for new literature showing how Magcoa's magnesium fabricating experience and facilities can help you improve your products through use of light-weight, heavy-duty magnesium. Use the handy coupon.

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To FLOW:

We have been searching in periodicals and other literature for warehouse layouts for storage and handling of automotive parts and have not had too much success. If you know where we might obtain such information we would appreciate your letting us know.

P. Whalen

The Cleveland Graphite Bronze Co.

The November, 1951 issue of FLOW was a special issue concerning warehousing problems. A copy of this issue plus tearsheets of other FLOW articles concerning storage and handling of automotive parts have been sent to Reader Whalen.

To FLOW:

We have noticed a letter from Mr. A. H. Fowler, Canadian General Electric Co., Ltd., in the April issue of FLOW, and we would be interested in knowing the loads they wish to handle as we have been working on a method which may or may not be suitable for their use. If you do not have this information, we would appreciate it if you would give us the address of this firm so we can contact them.

F. J. Avery

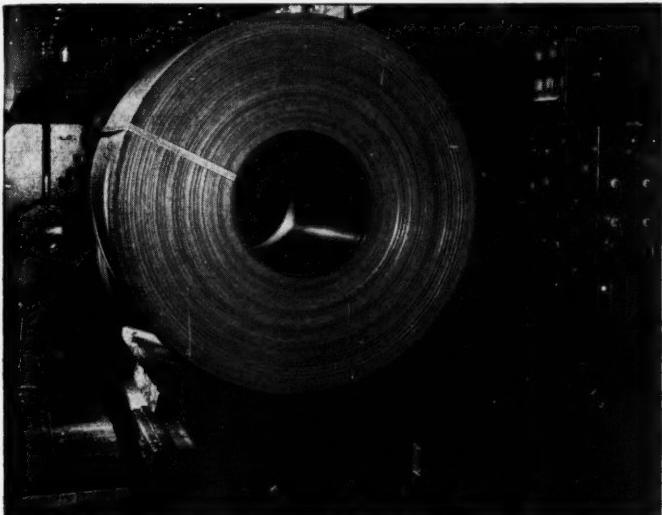
Elpar Engineering Associates

Reader Avery refers to a problem concerning the storage of bar stock in pigeon hole racks. He has been placed in direct contact with Reader Fowler so that a solution for the problem can be worked out. The editors invite others to follow Reader Avery's example and let us know when they have ideas for solving problems presented in these columns. The resulting benefits to everyone can be great.

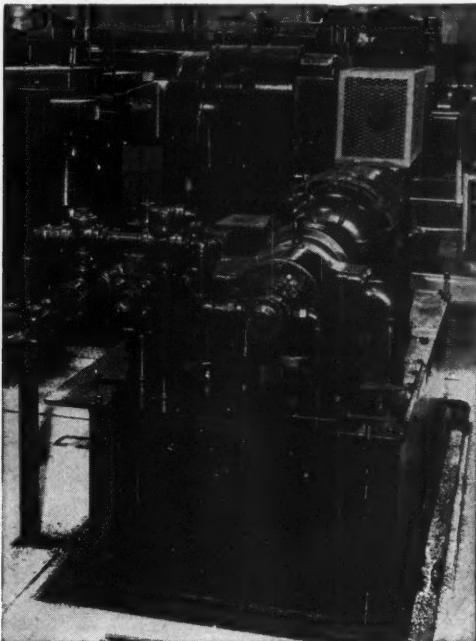
To FLOW:

Will you please furnish the writer with any information you may have in your files on the handling of rugs in cases that are 22 in. to 27 in.

At UNITED STATES STEEL



Coil Cradle on United States Steel Company's Irvin Works Three-Stand Cold Reduction Mill. Marvel Synclinal Filters are a part of the mill's main hydraulic system which operates this cradle as well as other hydraulic machines.



Hydraulic pump and tank on the recoiler hydraulic system of United States Steel Company's Gary Sheet and Tin Mill's Continuous Galvanizing Line. A Marvel Synclinal Filter is installed inside the tank on the suction line.

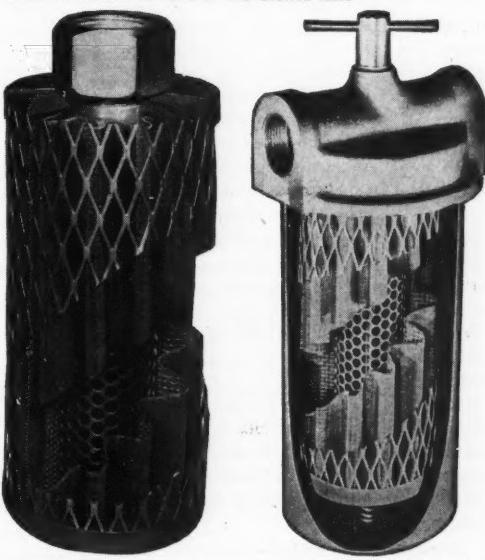
and with Hundreds of Others

MARVEL SYNCLINAL FILTERS PROTECT HYDRAULIC EQUIPMENT

IN 1951 ALONE OVER 30,000 MARVEL SYNCLINAL FILTERS have been specified for installation on all types of hydraulic and oil recirculating equipment. In the plants of America's industrial giants as well as in the plants of smaller businesses, Marvel Synclinal Filters are doing a job protecting machines and increasing production. They are proving their superiority in the one real test — on the job. Records show Marvel Synclinal Filters operating longer between cleanings, requiring less attention, cutting down time, and in short, achieving more production with less maintenance. Not only plant operators, but also over 270 manufacturers of machines have recognized the superiority of Marvel Synclinal Filters and now install them as original equipment.

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In response to the great demand we have designed both our sump and line models for use in all water filtering applications.



SUMP TYPE (Cutaway)

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A SIZE FOR EVERY NEED in filtering non-corrosive liquids in hydraulic and low pressure systems. Sump and line type models available in capacities from 5 to 100 g.p.m., and in mesh sizes from .30 to .200. All models may be quickly disassembled, cleaned and reassembled on the spot by any workman. Line models operate in any position and are easily serviced without disturbing pipe connections.

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Meets
J.I.C.
Standards



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They use low-cost electric power for battery charging; and they use it with maximum economy, because they start instantly, yet consume no power during stops. With electric-motor drives and EDISON Nickel-Iron-Alkaline Storage Batteries, they have a minimum of wearing parts; are easy to maintain, are rarely out of service for repairs. With batteries exchanged at convenient intervals, they operate around the clock with the highest dependability and lowest overall operating costs.

EDISON batteries have these important features:

They are durable mechanically; grids, containers and other structural parts of the cells are of steel; the alka-

line electrolyte is a preservative of steel.

They can be charged rapidly; gassing cannot dislodge the active materials.

They withstand temperature extremes; are free from freezing hazard; are easily ventilated for rapid cooling.

They are foolproof electrically; are not injured by short-circuiting, reverse charging or similar accidents.

They can stand idle indefinitely without injury. Merely discharge, short-circuit, and store in a clean, dry place.

They are simple and easy to maintain.

As a result of these features, they are the longest-lived of all storage batteries. In fact, they have such long life that they effect important economies in depreciation charges. And they are so trouble-free that they cut maintenance charges too. Send for bulletin *Modern Material Handling* for further details of the advantages of electric-motor drives and EDISON batteries. Edison Storage Battery Division of Thomas A. Edison, Incorporated, West Orange, N. J. Thomas A. Edison of Canada, Limited, Montreal.

You can always rely on



EDISON

Nickel-Iron-Alkaline Storage Batteries

Circle No. 10 on Reader Service Card for more information

10

square and nine ft. to 12 ft. in length. These cases weigh 400 to 600 lb. The cases are received from highway trucks unloaded with rollers, placed on two-wheel hand trucks and trucked into a storage area where it takes approximately six men to stand them on end. Each case must be available for selection at any time.

Harry L. Strong
Mercury Material Handling Equipment Corp.

Within the next few months, FLOW will run an article on the subject of handling rugs. In the meantime, data that has been run previously has been forwarded to Reader Strong.

To FLOW:

For the purpose of storing finish-drawn copper and brass tubing, we are interested in obtaining portable interlocking storage racks conforming with the following requirements:

1. Such racks must be adapted for storing tubes varying from $\frac{3}{8}$ in. to $2\frac{1}{2}$ in. outside diameter and of corresponding variations in weights per ft. from 0.10 lb. to five-lb. Tube lengths will vary from six ft. to 24 ft.

2. The use of a special grab or hooking device other than standard overhead crane hooks and ropes will not be acceptable, since the cranes serving our storage areas are required to perform other services where the use of special grabs is unnecessary.

3. These racks must be capable of being stacked and locked vertically so that a group of three or four may be transferred in a single lift from one location to another.

4. Dimensions of the racks shall be such that the effective storage cross-section of each rack is approximately 36 in. wide and 24 in. high. Perhaps you can refer us to suitable sources of such racks.

G. Williams
Bridgeport Brass Co.

Some good ideas on how this problem can be solved were included in an article on racks in the December 1951 issue of FLOW. A tearsheet has been sent to Reader Williams. Perhaps other readers can supply even more information, based on their own experiences.

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Equipment

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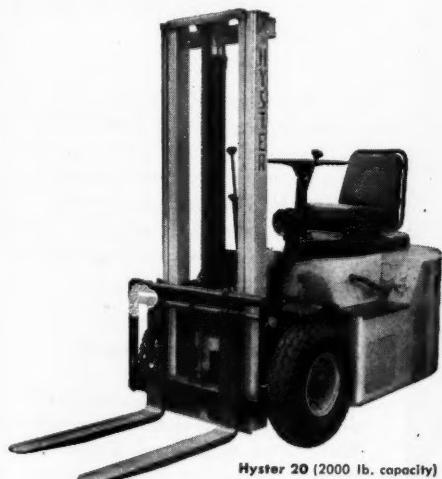
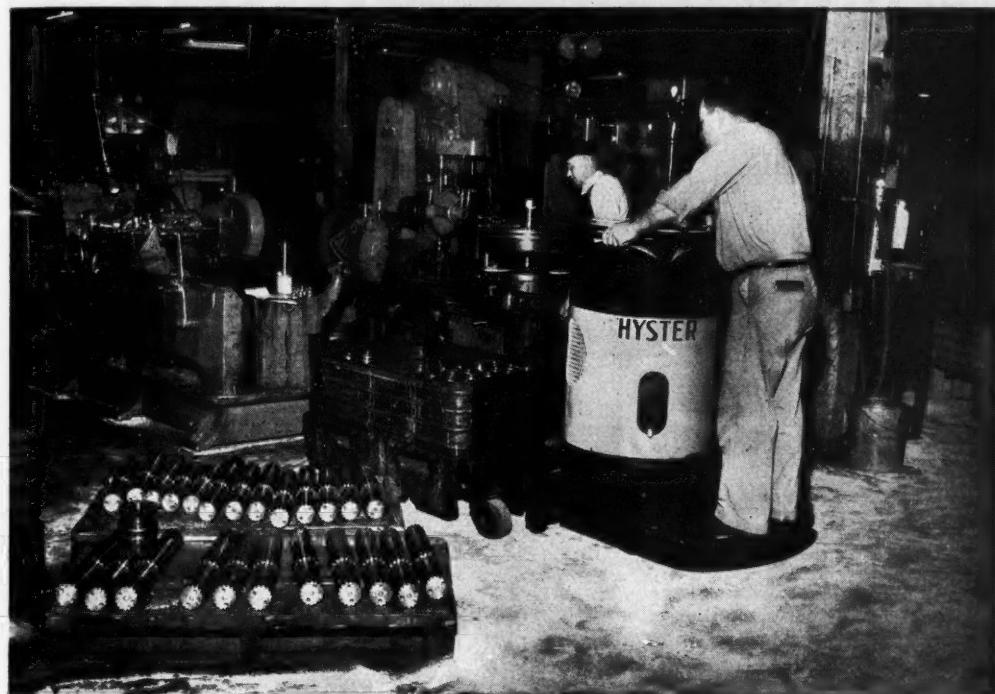
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FLOW

HYSTER® Turret Trucks handle materials faster and cheaper in MANUFACTURING PLANTS



Hyster 20 (2000 lb. capacity)

Hyster fork-type Lift Trucks, Turret Trucks, Straddle Truck® and Karry Krane® have capacity ranges from 1000 lbs. to 30,000 lbs. Sold and serviced by Hyster dealers around the world.

FAST HORIZONTAL TRANSPORTERS for loads up to 4000 pounds. Hyster Turret Trucks go anywhere man-pulled or power-driven "walker-controlled" trucks can go, and go faster, loaded or empty. They operate an average 8-hour shift on a gallon of gasoline.

ANYONE CAN OPERATE — GREAT MANEUVERABILITY. Fully automatic clutch and transmission. No gear shifting. No levers. Tight quarters, narrow aisles and ramps are no problem. 360° steering is done through drive wheel. Truck "inches" along or goes 8 MPH fully loaded; 10-12 MPH empty.

LOW PURCHASE COST. One of the lowest priced, self-propelled materials handling trucks—in line with most "walker-controlled" units.

See your Hyster dealer, or write for literature. 4 models—**PALLET, PLATFORM, CARGO and TUG.**

HYSTER COMPANY

THREE
FACTORIES

2931 N. E. CLACKAMAS, PORTLAND 8, OREGON
1831 NORTH ADAMS ST... PEORIA 1, ILLINOIS
1031 MEYERS STREET . . . DANVILLE, ILLINOIS

Circle No. 11 on Reader Service Card for more information



Spare the Back, and ... Speed the Load!

• This WRIGHT Speedway Hoist saves effort and speeds material handling. It's the modern way to move things in your shop. And the WRIGHT Speedway is the completely modern hoist.

In the Speedway you get alloy steel gears, self-lubricating ball and roller bearings, preformed improved plow steel cable, grooved drum, rigid metal weatherproof wire conduits, silver contact controls, and other important features. The WRIGHT Speedway is designed for long life and requires minimum maintenance. Capacities from $\frac{1}{4}$ to 10 tons.

See your distributor today or write us for literature.



WRIGHT HOIST DIVISION
AMERICAN CHAIN & CABLE

York, Pa., Chicago, Denver, Detroit, New York, Philadelphia,
Pittsburgh, San Francisco, Bridgeport, Conn.

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12

MEN in the news



E. W. Woodberry
Lamson Corp.



Fred J. Ebeling
Dodge Mfg. Corp.

... at Lamson Corp.

E. H. Woodberry has been appointed to the position of sales manager of the company's pallet loader line. Woodberry, a veteran of 20 years with the firm, held the position of field engineer at the company's Boston office. He replaces Curt Barker.

... at Flexa Steel Products Inc.

Walter H. Krueger has been announced as president of Flexa Steel Products, Inc. He was formerly vice president and general manager of American Steel & Iron Works. Sales manager of the new firm is Robert C. Evans.

... at Dodge Mfg. Corp.

The appointment of Fred J. Ebeling to a newly created post as general sales manager has been announced by Harry A. Torson, vice-president in charge of sales. Formerly, he served as assistant secretary and treasurer for the company.

... at Mid-States Gummed Paper Co.

At a recent directors' meeting, Arno L. Zinke was elected President of Mid-States Gummed Paper Co. He was previously vice president and general manager of the company.

... at Rapids-Standard Co., Inc.

Kenneth P. Denisty has been named product manager of the Caster and Truck Division. Until his recent

Acme Steel Strapping Insures S.A. (*Safe Arrival*)

Saves time, money, materials, too!



ARMY RATIONS REACH KOREA. South Korean longshoremen at Pusan unload cartons protected by steel strapping. Government specifications require this protection for all boxes bound for overseas. Goods arrive safe and sound despite countless handlings from manufacturer to depot to base.

The things you eat and wear and read and sit on seldom reach your house still protected by Acme Steel strapping. But somewhere along the line steel strapping protects all or part of almost everything you use.

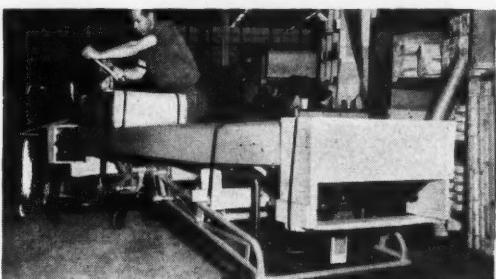
Acme Steel strapping insures

safe arrival. That's what it's made for.

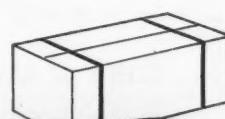
Acme Steel strapping also reduces packing and shipping costs. We have many striking examples of this. Write for them to Acme Steel Products Division, Dept. F-72.



TIES UP TIES. The Southern Railway scooped up 180,000 ties from an unused stretch of track, tied them in convenient bundles with Acme Steel strapping for easy loading, shipping, tallying and storing.



STRAPPING A RAPIDAN! The Rapids-Standard Company makes a variety of sizes, types and models of power conveyors, odd shapes to pack and ship. They do it quickly, easily, safely with framing and corrugated board held by Acme Steel Strapping.



**ACME
STEEL**



ACME STEEL COMPANY

2858 Archer Avenue, Chicago 8, Illinois

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"MOTO-TRUCS

are more dependable

*and give longer service
greater value"*

SAY MOTO-TRUC USERS

Smallest Turning Radius

All Welded Construction

Easiest To Operate

Exclusive Braking System

Powerful Rugged Motor

Dead-man Controls



MOTO-TRUC'S 6 BASIC MODELS ARE QUICKLY ADAPTABLE TO ANY PROBLEM IN THE WALKIE FIELD.



A "twist of the wrist" does it.

● Since 1936, when Moto-Truc brought the first motorized hand truck, they have proven their superiority for all operations in the "Walkie Field."

● From zero cold to desert heat, they work with steady efficiency day after day. Ease of operation (all controls in handle) and a minimum of repair and replacement expense make them the favorite of both Labor and Management.

DON'T BE SATISFIED WITH LESS THAN THE BEST.

THE MOTO-TRUC CO.

SEND FOR
Bul. No. 51

1953 E. 59th STREET • CLEVELAND 3, OHIO.
PALLET, PLATFORM AND HI-LIFT TRUCKS
LARGEST EXCLUSIVE MANUFACTURER OF "WALKIES"



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14



W. Grant Mackenzie
Columbus McKinnon
Chain Corp.



Gordon J. Berry
Electric Products Co.

promotion, he held the post of assistant product manager.

Bert Woldring has been appointed researcher in product and market development. In addition to

. . . at Electric Products Co.

The board of directors has announced the election of Gordon J. Berry as president. Until this appointment, he held the post of vice president in charge of sales. Berry is noted for his energetic support of the Industrial Truck Association and the Material Handling Institute.

. . . at Columbus McKinnon Chain Corp.

W. Grant Mackenzie, managing director of the company's South African associate, McKinnon Chain (S.A.) Ltd., is making an extended visit to the parent company factories in the U.S. and Canada. In this visit, Mackenzie will see the results of a long-range program of plant modernization and newest American methods of chain manufacture.

. . . at Bowers Battery and Spark Plug Co.

The appointment of R. M. Jaccard as Sales Manager, Industrial Division, has been announced by Harry J. Nosztesy, vice president in charge of sales. Jaccard will be in direct charge of sales of all batteries for industrial trucks, diesel and mine locomotives, railroad lighting and similar products.

. . . at Motorola

Ed Falls is the new regional manager for the Communications and Electronics Division's southwest sales area. The region includes the states of Texas, Oklahoma, Arkansas, Louisiana, and New Mexico.

John Jipp has been advanced to a new west coast assignment in which he is establishing a service and parts

CIVILIAN OR Defense Products

a low cost Collapsible Pallet Box

Engineered to meet
your requirements

MODEL C

check



Here's a money saver for in-plant storage and handling of materials and for outside shipments too. Its low initial cost will save thousands of dollars for plants using pallets in quantity.

check



The B-G Collapsible Wood Pallet Box is light in weight but built strongly enough to handle weights up to 5000 lbs. and is rugged enough to stand up under many repeated shipments.

check



The collapsible feature is made possible by the exclusive Bigelow-Garvey TIGHT CORNER hinge design used on all of our collapsible wood shipping crates.

Used as a storage box, a tote box or as a shipping container, you will like this sturdy but inexpensive addition to effective materials handling.

MODEL B



Photo shows front opening for easy access to contents when stacked one on top another or in racks. Furnished with or without self-locking insert panel.



B-G Pallet Box attached to standard pallet by means of four corner irons and a single steel strap, showing the hinged drop leaf for easy access when pallet boxes are stacked or tiered.

MODEL A

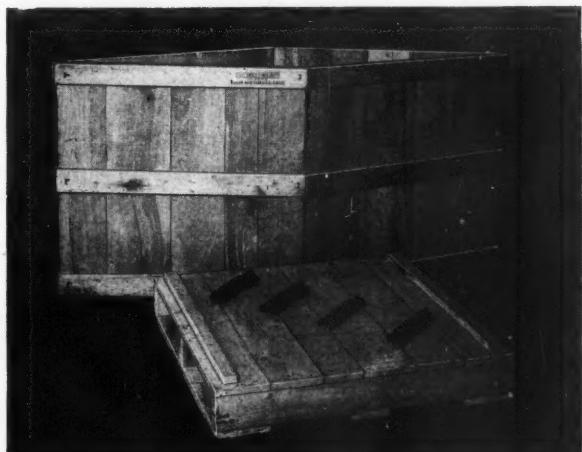


Photo shows hinged box collapsed for storage or return shipment. Pallet Boxes can be furnished with or without Tops for all models.



ARKANSAS GEORGIA WISCONSIN MINNESOTA ILLINOIS



Write for complete details and prices to...

General Sales and Inventory

BIGELOW-GARVEY
Lumber Company

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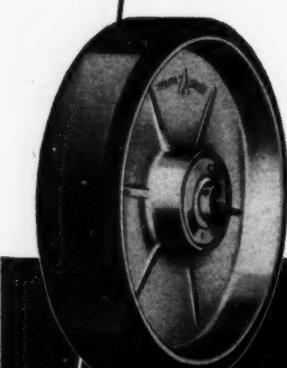


A STITCH

IN TIME . . .

... Time is money, when it comes to meeting your materials handling problem, and smart buyers everywhere have taken a leaf from the legendary tailor's book...but instead of saving buttons, they're saving dollars!

Maintenance engineers who concentrate on Aerol equipment find that positive pressure sealed Aerol Seal wheels cut maintenance and repair bills to the bone... No problems with moisture getting into the hub to ruin important bearings... no breakdown problems due to lack of lubrication... Yes, Aerol's "lubricated for life" wheel stands up even under the most severe of pressure steam cleaning... Rolls on and on without adding a care to even the most harried of plant engineers.



Pick up the "stitch in time" that will save your plant thousands of dollars in maintenance and replacement costs—get acquainted with the "Master of Moisture" today—the Aerol Seal Wheel—the one caster and wheel that assures savings, both in maintenance costs and in reduced operating expenses.

CONCENTRATE ON

aerol

AEROL CO., INC., 2424 SAN FERNANDO RD., LOS ANGELES 65, CALIF.

NO WHEEL ROLLS  LIKE AN AEROL

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department in San Mateo, California. Jipp was formerly regional manager of the southwest sales area.

... at Globe Hoist Co.

Carl E. Duckwitz has been named vice president in charge of the Industrial Lift and Elevator Co. Announcement of the appointment was made by



Carl E. Duckwitz
Globe Hoist Co.

Fred W. Swanson, Jr., president of the concern. In his new position, Duckwitz will direct the industrial lift activities of Globe from the Philadelphia sales headquarters.

... at Bucyrus-Erie Co.

The board of directors elected the following officers at a meeting recently: **W. W. Coleman**, chairman; **N. R. Knox**, vice chairman; **W. L. Little**, president; **C. K. Charlton**, vice president; **P. S. Stevens**, vice president; **M. T. Smith**, vice president; **L. S. Cline**, secretary; and **F. C. Weiblen**, treasurer.

(Turn to page 138)

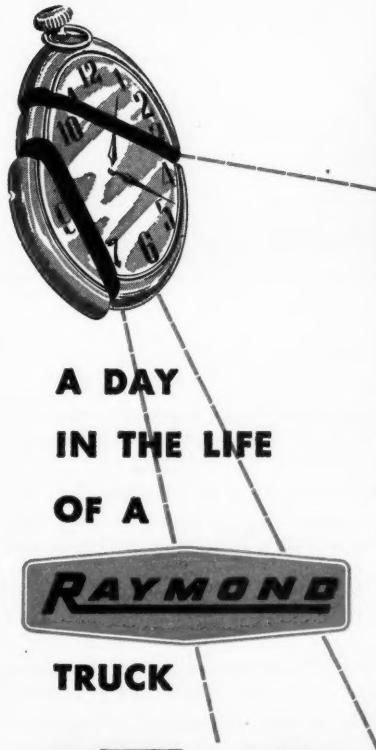


George H. Kubes
American Box Co.



Robert M. Whitney
Automatic
Transportation Co.

In Men In The News, June FLOW, the names of George H. Kubes and Robert M. Whitney were switched. Their pictures appear above correctly identified.



LOAD GOES UP First job of the day for this RAYMOND Tiering Truck is storing 48" pallet loads. Truck right-angle tiers loads easily from 6-ft. wide aisles thanks to its short length and patented* offset drive wheel with 200° turning arc. Result: warehouse gains up to $\frac{1}{3}$ more storage space.



THE ELECTRIC TIERING TRUCK THAT TIERS LOADS FROM 6-FT. AISLES



TRUCK COMES DOWN Into the elevator goes the RAYMOND Tiering Truck, moving goods from floor to floor. Truck operates safely on elevators and low-capacity floors like lofts because it's so light, so compact, has no counter-weight. Patented* knee-action swivel caster compensates for uneven floors. *Patent No. 2,564,002

The RAYMOND CORPORATION

3373 Madison St., Greene, N.Y.

Gentlemen: Please send me Bulletins 730 and 770 on your 2,000 and 3,000-lb. capacity Tiering Trucks. I'm interested in a demonstration

Yes No.

NAME	TITLE
COMPANY	
STREET	
CITY	STATE

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NEWS VIEWS TRENDS

EXPOSITION CHAIRMAN CHOSEN

R. C. Cragg, Chicago Regional Manager, Gould-National Batteries, Inc., has been named general chairman of the seventh annual Industrial Packaging and Material Handling Exposition. Announcement was made by Stanley Price, president, Society of Industrial Packaging and Material Handling Engineers. The show and a concurrent short course sponsored by the mechanical engineering department, College of Engineering, Extension Division, University of Illinois, will be at Chicago Coliseum, Oct. 14-16.

NEW IDEAS IN SCRAP HANDLING

Scrap Handling Problems were given close scrutiny at a Material Handling Institute conference in Chicago, May 21 and 22. Representatives of five companies with heretofore unsolvable problems presented the subject matter and experts from manufacturers of material handling equipment supplied the solutions. Users represented were Ford Motor Co., International Harvester Co., Rockford Drop Forge Co., Caterpillar Tractor Co., The Falk Corp., and Deere & Co. Representing manufacturers were: A. S. Wroblewski and C. E. Barner, American Monorail Co.; F. J. Schmidt, American Steel Dredge Co.; Goodloe Walden, Dempster Brothers; C. E. Killebrew, The Frank G. Hough Co.; E. W. Franz, May-Fran Engineering Inc.; O. T. Henkle, Jr., The Mercury Mfg. Co.; L. West Shea, The Union Metal Mfg. Co.; and R. L. Wolter, Yale & Towne Mfg. Co. Chairman of the meeting was W. E. Schirmer, (president, Industrial Truck Association), Industrial Truck Division, Clark Equipment Co. Representing the Material Handling Institute were: J. Beltz, Industry Service Committee, The Thew Shovel Co.; J. Bucus, Past President of the Institute, and B. R. Carter, Harry W. Smith Inc. For complete copies of the proceedings, circle No. 259 on Reader Service Card.

CONSULTING SERVICE OFFERED

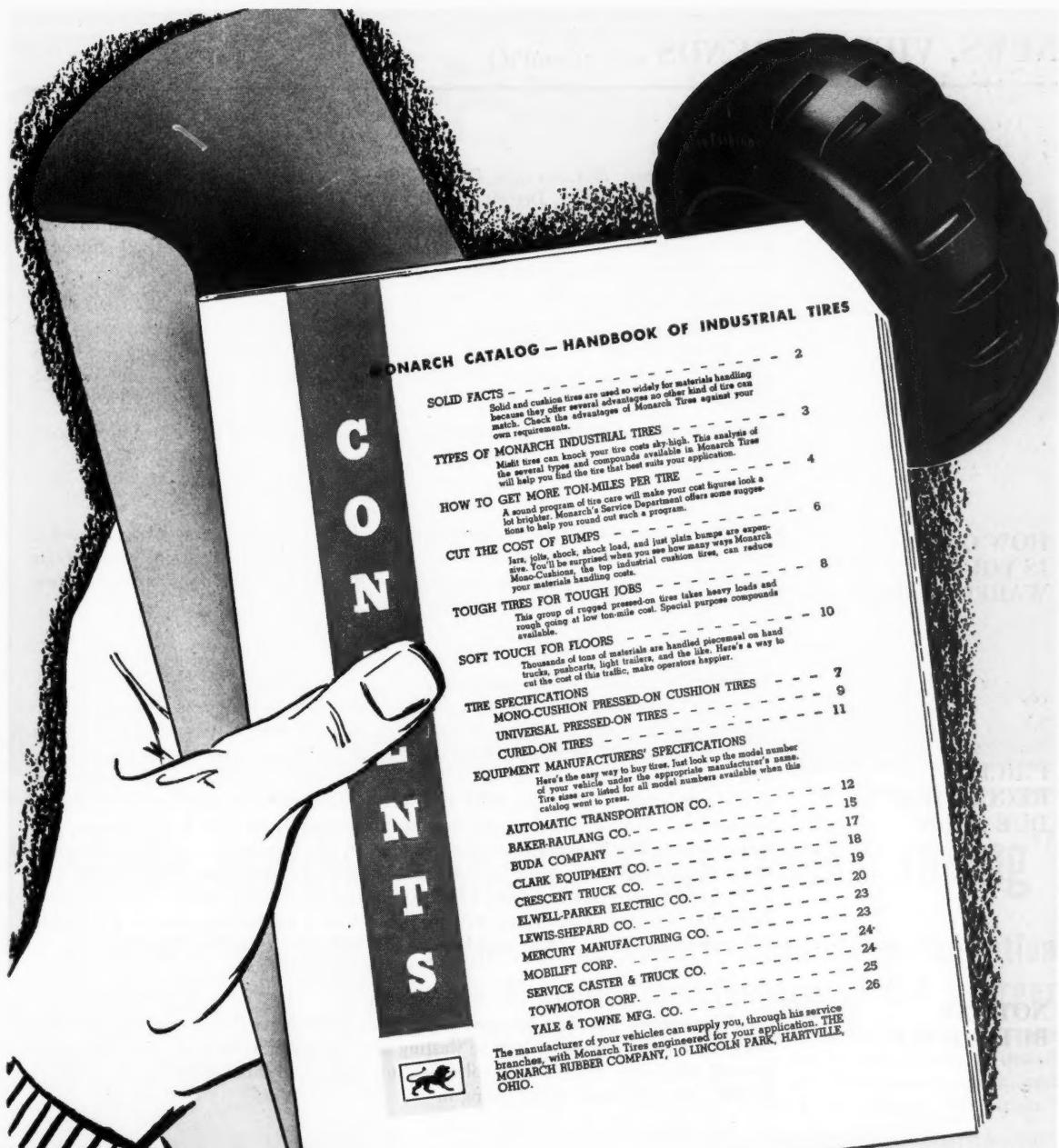
Bob Brady, former director of research for the Material Handling Institute and Bill Wheeler, formerly of FLOW have joined forces to offer a specialized material handling consulting service for industry. The new firm is known as Wheeler-Brady, Inc., with headquarters in Cleveland, at 21264 Kenwood, Cleveland 16, Ohio.

GET MORE FROM OVER- HEAD EQUIPMENT

Manufacturers of overhead equipment make countless attachments to adapt handling systems to almost any specialized requirement. Don't miss the survey article in this issue telling about a great many such attachments. 22 of the most useful are pictured.

AUTOMATIC ADVISORY COUNCIL

John J. Connel, St. Louis area representative of the Automatic Transportation Co. has been selected chairman of the Chicago electric industrial manufacturer's advisory council. He will head the group of sales and factory representative for a one-year term ending in April 1953. The council was formed by Automatic to coordinate the knowledge, experience and ideas of field and factory personnel. James F. B. Meikle, Clyde Equipment Co. was selected by the group as secretary.



MONARCH CATALOG - HANDBOOK OF INDUSTRIAL TIRES

SOLID FACTS

Solid and cushion tires are used so widely for materials handling because they offer several advantages no other kind of tire can match. Check the advantages of Monarch Tires against your own requirements.

TYPES OF MONARCH INDUSTRIAL TIRES

Monarch tires can knock your tire costs sky high. This analysis of the several types and compounds available in Monarch Tires will help you find the tire that best suits your application.

HOW TO GET MORE TON-MILES PER TIRE

A sound program of tire care will make your cost figures look a lot brighter. Monarch's Service Department offers some suggestions to help you round out such a program.

CUT THE COST OF BUMPS

Just, jolt, shock, shock load, and just plain bumps are synonymous with industrial tires. You'll be surprised when you see how many ways Monarch Mono-Cushions, the top industrial cushion tires, can reduce your materials handling costs.

TOUGH TIRES FOR TOUGH JOBS

This group of rugged pressed-on tires takes heavy loads and rough going at low ton-mile cost. Special purpose compounds available.

SOFT TOUCH FOR FLOORS

Thousands of tons of materials are handled piecemeal on hand trucks, packcart, light trailers, and the like. Here's a way to cut the cost of this traffic, make operators happier.

TIRE SPECIFICATIONS

MONO-CUSHION PRESSED-ON CUSHION TIRES

UNIVERSAL PRESSED-ON TIRES

CURED-ON TIRES

EQUIPMENT MANUFACTURERS' SPECIFICATIONS

Here's the easy way to buy tires. Just look up the model number of your vehicle under the appropriate manufacturer's name. Tire sizes are listed for all model numbers available when this catalog went to press.

AUTOMATIC TRANSPORTATION CO.

BAKER-HAULANG CO.

BUDA COMPANY

CLARK EQUIPMENT CO.

CRESCENT TRUCK CO.

ELWELL-PARKER ELECTRIC CO.

LEWIS-SHEPARD CO.

MERCURY MANUFACTURING CO.

MOBILIFT CORP.

SERVICE CASTER & TRUCK CO.

TOWMOTOR CORP.

YALE & TOWNE MFG. CO.

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The manufacturers of your vehicles can supply you, through his service branches, with Monarch Tires engineered for your application. THE MONARCH RUBBER COMPANY, 10 LINCOLN PARK, HARTVILLE, OHIO.

"INSIDE INFORMATION" on the NEW MONARCH CATALOG

NEED A COPY?

Wherever hand or motor powered industrial vehicles are at work there is a need for the valuable facts and figures within this catalog. Just send your name and title on your company's letterhead to The Monarch Rubber Company, 501 Lincoln Park, Hartville, Ohio, and your copy will be on its way.

Circle No. 18 on Reader Service Card for more information

NEWS, VIEWS, TRENDS . . . (cont'd)

NOTE THESE ADDRESSES

HOW GOOD IS YOUR WAREHOUSING?

PRICE REGULATION DUE SOON

NOT FAR BUT COSTLY

ACME SUBSIDIARY BUILDS

TELDAY ADDS BOX LINE

NEW CONVEYOR FIRM

Michigan Crane & Conveyor Co. has formally opened its new expanded plant at 1414 Twenty-First Street, Detroit 16, Michigan. The opening was celebrated with an open house to which representatives of leading Detroit firms were invited. In addition to live displays of the company's crane line, guests watched production of a gigantic 125 ft. span box girder crane which was in the last stages of completion.

Daniel E. Noble, vice-president of Motorola's communications and electronics division has announced the opening of a new west coast parts and service department. The new activity, located at 811 South B. Street, San Mateo, California, will be headed by John Jipp, former sales manager of the division's southwestern states region. The office will service a nine-state area.

Hewitt-Robins, Inc.'s new executive offices are located at 666 Glenbrook Road, Stamford, Connecticut.

If you can answer yes to 16 questions which FLOW asks about your warehousing, you probably have an outstanding operation. You will find these questions in the section entitled "How Good Is Your Warehousing", in this issue. Three reports on some new ideas on warehousing are also presented.

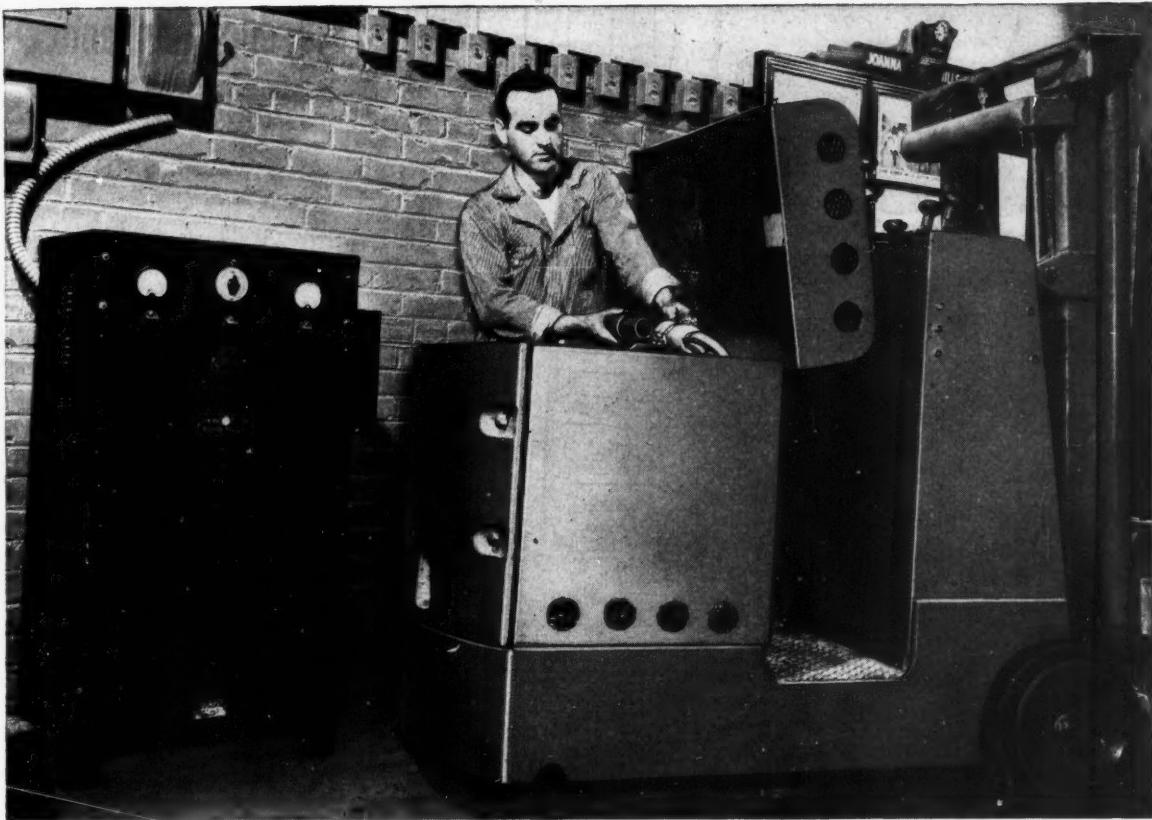
An OPS Tailored Price Regulation covering both powered and hand trucks, wheels and casters is in the final steps of preparation and will be issued soon. Advance reports indicate that the regulation is an improved, liberalized form of General Ceiling Price Regulation and will in general, call for use of highest prices received for the products between January 1, 1951 and March 1, 1951. An advisory committee in the preparation of the regulation consists of: John R. Morrill, formerly vice president, The Baker-Raulang Co.; Prentice Borden, vice president, Crescent Truck Co.; S. K. Towson, general manager, The Elwell-Parker Electric Co.; F. J. Shepard, Jr., secretary-treasurer, Lewis-Shepard Products, Inc.; O. T. Henkle, Jr., vice president, The Mercury Mfg. Co.; G. E. Arnold, secretary-treasurer, Clark Equipment Co.; Galen Miller, vice president, Townmotor Corp.; E. F. Twyman, vice president Yale & Towne Mfg. Co.; L. C. Daniels, vice president, The Buda Co.; and Eugene Caldwell, vice president, The Hyster Co.

Don't overlook the importance of handling between machines. Short moves from work station to work station can be wasting a lot of money if they are not done in the greatest efficiency. There's a complete section devoted to this subject in this issue of FLOW. You can profit from reading it.

Preliminary construction has begun on a \$980,000 plant at Scarborough, Ontario, near Toronto, for Acme Steel Co. of Canada, Ltd., a subsidiary of Acme Steel Co. Expected to be completed by late Fall, the Scarborough Works will manufacture flat steel strapping and seals for container reinforcement. The modern mono-story building and adjacent heating plant will cover 30,000 sq. ft. of floor space.

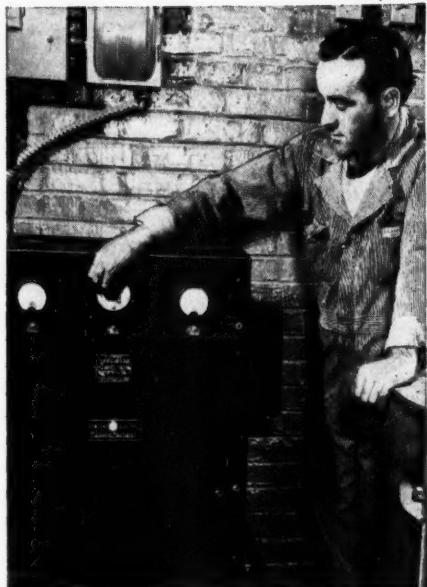
Telday Manufacturing Co. has acquired all the dies and component parts used in the manufacture of steel shop boxes and similar equipment from the steel factory equipment division of the Cleveland Wire Spring Co. R. J. Poole, president of Telday was connected with Cleveland Wire Spring as plant and sales manager for 33 years.

A new division of the Smith Power Transmission Co. has been formed to develop, design, construct and install conveyor equipment for diversified industries. It has been dubbed, The Flexoid Conveyor Co.



CONVENIENTLY LOCATED OFF A MAIN AISLE AT JOANNA MILLS, THIS G-E METALLIC RECTIFIER IS USED FOR "ON-THE-SPOT" CHARGING

"Metallic rectifier chargers keep trucks rolling"



EASY CHARGING OPERATION is demonstrated by Joanna Mills' operator J. E. Stroud. He merely connects terminals (top photo), sets time switch (lower photo). Charging is automatic.

Joanna Mills Reports Dependable Operation with Minimum Maintenance of G-E Charger

Joanna Mills, Joanna, South Carolina, makes materials for drapes and window shades. They use a number of battery-operated lift trucks for materials handling.

"We've used G-E metallic rectifier chargers since 1946 to keep our lift trucks in top running condition," says Carl Franzen, Master Mechanic, "and very little maintenance has been needed."

EASY TO INSTALL

"One thing we like in particular," continues Mr. Franzen, "is the convenience of a G-E

metallic rectifier. It doesn't take up much room, is easy to install in any convenient location, and needs no special foundation."

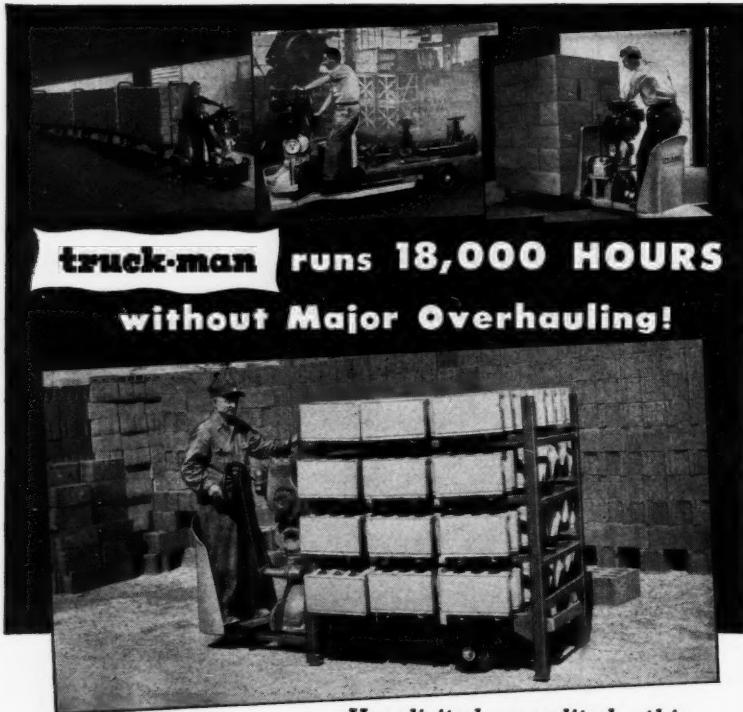
ECONOMICAL—AUTOMATIC

In addition to low installation costs, G-E metallic rectifiers have high efficiency, keep power costs down. Fully automatic, they have safety features which prevent damage to battery or charger in case of power failure.

For more information, ask your truck agent, or write for bulletin GEA-5292A, Section 463-7, General Electric Co., Schenectady 5, N. Y.

GENERAL  **ELECTRIC**

Association and Society News



**truck-man runs 18,000 HOURS
without Major Overhauling!**

Unsolicited, unedited, this quotation is from a letter which accompanied a Truck-Man owner's order for replacement parts:*

"... After six years at approximately 10 hours per day steady running I find it necessary to rebuild the majority of gears, sprockets and other movable parts on one Truck-Man and prepare to do so on another..."

Another* writes:

"... We are not only well pleased but we do not believe there is a piece of equipment on the market which would serve our requirements any better... Our normal load would probably run in the neighborhood of 4,000 lbs. ... We now have four Truck-Men... that run possibly 20 hours every day continuously... The cost of operating a Truck-Man is certainly extremely low, as it uses very little gas and oil... We have had very little maintenance on this equipment."

What convincing evidence that you don't have to buy expensive, cumbersome equipment for four out of five horizontal material handling jobs! Truck-Man's low weight to pay-load ratio combined with its rugged air-cooled engine make exce-

tional efficiency possible. You burn only a gallon of gas on most 8-hour shifts. You can take steep inclines, run at speeds up to 8 m.p.h. You get a rubber-cushion ride, hydraulic lift, smooth start and stop, 360° steering. Of course, the operator rides in comfort.

Four versatile models are available; the well-known Model D 3500 lb. Skid Lift, Model DF 3000 lb. Pallet Toter, Model DT 2000 lb. Platform Utility and the brand new Truck-Man TRUCKTOR of 13,000 lb. towing capacity. They're your answer if you have load limit problems on elevators, floors or docks. Many use Truck-Men as feeders to their heavy equipment. Whether your plant is 10-man or 10,000-man, there's a place for Truck-Man in your picture. Send for new 1952 catalog just off the press.

*Names on file

truck-man

**Div. of The KNICKERBOCKER CO.
582 Liberty St. • Jackson, Mich.**

Send me the New Catalog describing four Truck-Man Models

Name _____

Title _____

Address _____

City _____ Zone _____ State _____

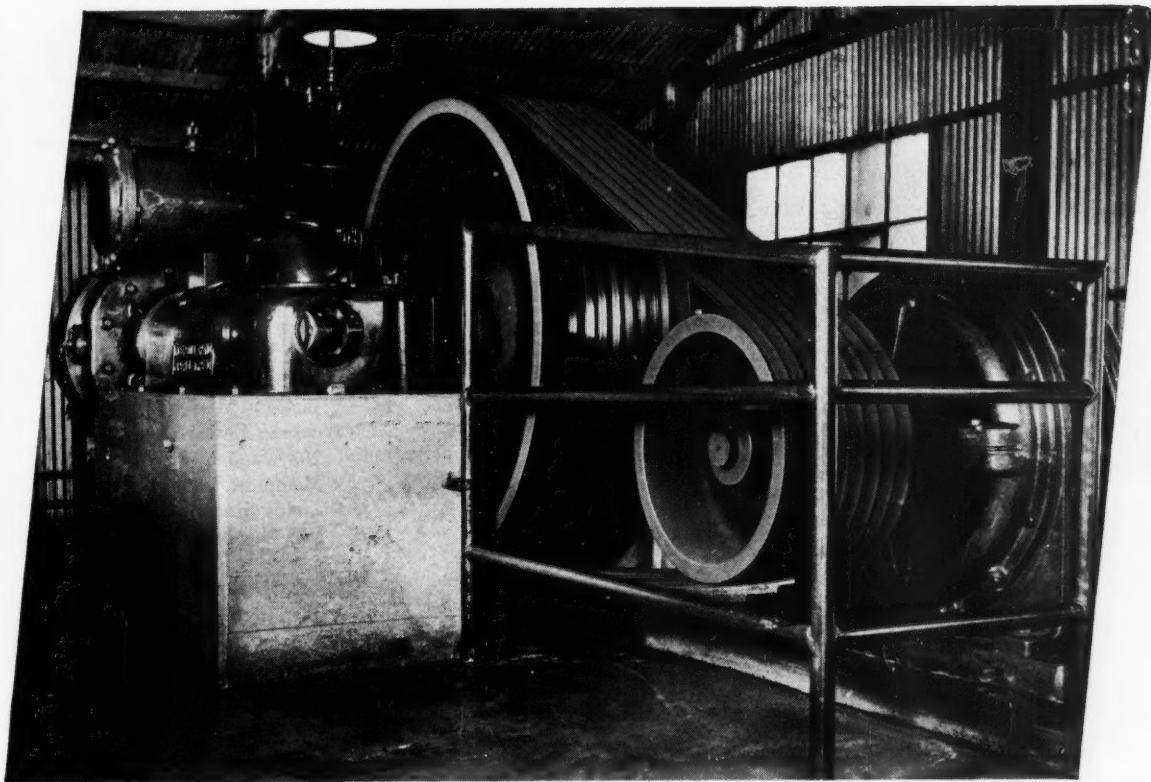
• The Traffic committee of the Caster and Floor Truck Manufacturer's Association met at the Hotel Hollenden in Cleveland for its most recent meeting. Chairman of the meeting was C. H. Strauss of Ironbound Box & Lumber Co. Other representatives included: J. M. Davison, The American Pulley Co.; John Tiernan, The Bassick Co.; R. C. Stockton, The Bassick Co. (Stewart-Warner); R. W. Alexander, Electric Wheel Co.; J. S. Hanson, The Fairbanks Co.; H. K. Rogers, Faultless Caster Corp.; R. S. Piatt, The Lanham Co.; J. W. Gross, The Monarch Rubber Co.; W. F. Pruyne, Saginaw Products Corp. Traffic Advisor was W. C. Mitchell, Jr. of Milton P. Bauman Associates.

• A tour of the office and factory of the S. C. Johnson plant in Racine featured a recent meeting of the Wisconsin Chapter of the Society of Industrial Packaging and Material Handling Engineers. A program after dinner presented case histories of several Racine Industries. They were followed by discussion periods.

• Featured speaker at the May meeting of the Cleveland Chapter of the American Material Handling Society was Commander E. E. Brighton, SC, U.S.N., prospective director of the Navy's storage division. His subject was, "U.S. Navy Efforts Toward Standardization in the Area of Material Handling Equipment."

• The Eastern Great Lakes Regional Conference of the American Material Handling Society was an all day and evening affair held in Pittsburgh. Speakers included Tom Anderson of Anderson Elevator Co., who spoke on "Handling Problems at a Grain Truck Terminal" (see story in this issue); Hoy Stevens, Chief, Equipment & Operations Section, American Trucking Association who spoke on "Material Handling Equipment on Mo-

Turn to page 99



**Keep your
production
in the groove
with
Thermoid
V-Belts**

Production men, in all kinds of industries, rely on the greater strength and longer life in Thermoid V-Belts to provide smooth, efficient performance and long wear . . . keep production in the groove.

From huge multiple V-Belts of rayon grommet construction to the smallest fractional horsepower belts, you can always depend on Thermoid quality.

The result is V-Belts with minimum stretch and extreme flexibility . . . designed to transmit maximum power without slippage . . . able to withstand high speeds and absorb shock.

All these advantages add up to lower operating and maintenance costs, and in the long run, the most economical V-Belts you can specify for the job.

Call your nearest Thermoid distributor today. He has a complete range of sizes to meet your requirements. And for your special V-Belt problems, experienced Thermoid Sales Engineers are always ready to help you.



thermoid

Conveyor & Elevator Belting • Transmission Belting
F.H.P. & Multiple V-Belts • Wrapped & Molded Hose

Rubber Sheet Packings • Molded Products
Industrial Brake Linings and Friction Materials

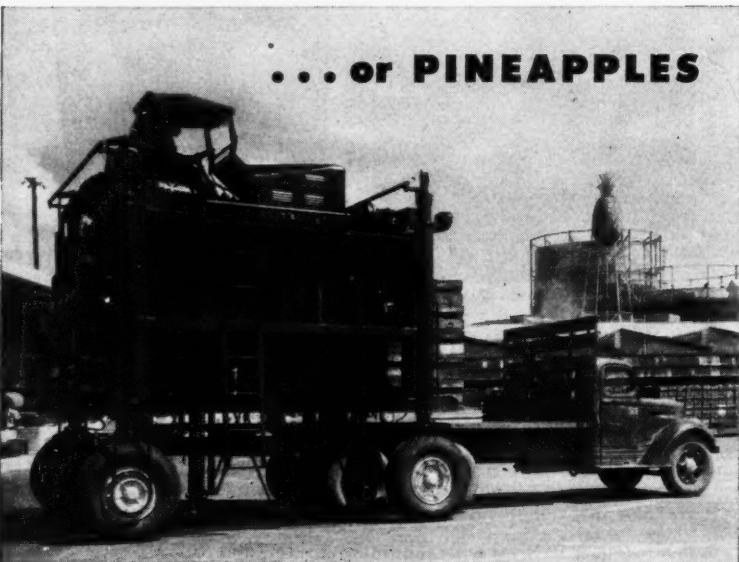
Thermoid Company • Offices & Factories: Trenton, N. J., Nephi, Utah

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**Maybe your business isn't
LUMBER . . .**



. . . or PINEAPPLES



BUT . . . just imagine the savings you could make, the problems you could solve by handling your materials with ROSS Straddle Carriers, the most flexible and most adaptable mass material handling method known!

ROSS engineers will be glad to work with your materials handling men in exploring the possibilities of ROSS Straddle Carriers for your operations . . . there's no obligation.

Send for details on ROSS Straddle Carriers . . . 10,000 lb., 20,000 lb., 35,000 and 45,000 lb. capacities .

*Rely On
ROSS*

THE ROSS CARRIER COMPANY
Direct Factory Branches and Distributors throughout the world.
280 Miller St., Benton Harbor, Michigan, USA

Circle No. 22 on Reader Service Card for more information

news from the SALES FIELD

C & D Batteries Inc., has announced the following have been appointed as sales and service representatives:

H. S. Gregory
335 N. Peters Street
New Orleans, La.
T. M. Salisbury
415 Court Street
Jackson, Mississippi
Thomas Eades
253 Wagoner Street
Memphis, Tennessee
Charles Singleton
915 W. Adams Street
Jacksonville, Florida
E. T. Sharley
Birmingham, Alabama

The company reports that all of the new representatives have many years of experience and are widely known in the industrial battery field. They handle a complete line of batteries for all industrial uses and have complete facilities for dealing with battery and charger problems.

Charles P. Lauman Co. has been appointed as franchise distributor for Colson Corp. in the New England area. It will handle the complete line of Colson caster, industrial and institutional equipment, industrial trucks, hospital equipment, and invalid chairs. Colson is closing its Boston sales office and asks that in the future, all inquiries for Colson products be referred to the newly appointed distributor at:—99 Bedford Street, Boston 11, Massachusetts.

The Mehl Mfg. Co. announce the appointment of **Charles Long** as sales representative in Arkansas, Missouri, Kansas, Colorado, parts of Oklahoma, parts of Illinois, Memphis, Tennessee, and Salt Lake City, Utah.

Authorized as exclusive Hyster dealer, **Industrial Handling Equipment Co.** of Cincinnati has been organized by two former factory men to handle sales and service of Hyster ma-

FOR
LOW COST
PAY LOADS



It Pays To Use **DIAMOND** **ROLLER CHAINS**

• On unusual types of materials handling equipment, too, such as the Gerlinger Lumber Carrier, Diamond Roller Chains simplify design. Distance between the motive power above and the wheels below offer no power transfer problem.

Diamond Roller Chains provide the dependable, non-slipping, sturdy drive at low cost. In fact, it would be difficult to imagine a simpler manner of accomplishing the driving of such a machine. Gears would be heavy, impractical and costly, besides requiring a multiplicity of shafts. Belts could not provide the positive, non-slip power transfer nor withstand exposure to the elements.

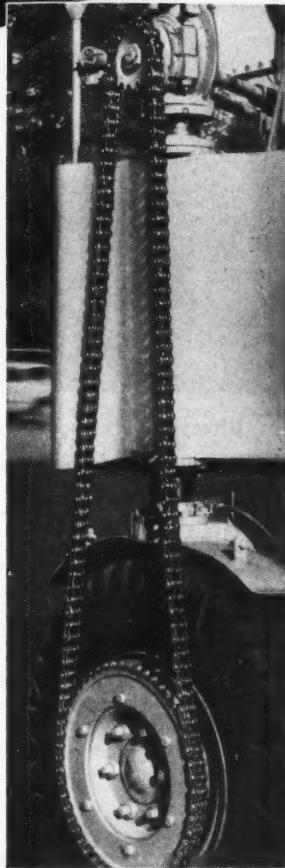
Because of the uniform link-for-link quality and strength, the high efficiency of 98-99%, you too will find it pays to use Diamond—made in all pitch sizes, single and multiple strands, for fractional or thousands of horsepower capacities,—for slow, medium, high and very high speeds.

DIAMOND CHAIN COMPANY, Inc.

Dept. 624, 402 Kentucky Avenue, Indianapolis 7, Indiana

Offices and Distributors in All Principal Cities

Refer to the classified section of your local
telephone directory under the heading CHAINS or CHAINS-ROLLER



On this Gerlinger Carrier,
Diamond Roller Chains
drive the two rear wheels
from shafts above.



DIAMOND

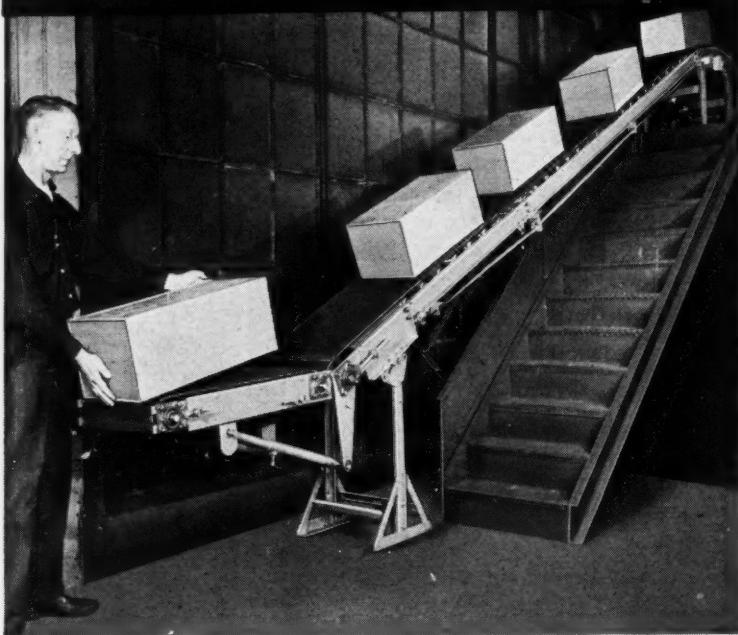


**ROLLER
CHAINS**



Circle No. 23 on Reader Service Card for more information

New  **Liftveyor**
 ready to go to work
 for you anywhere



Liftveyor is a complete unit ready for service.

You don't have to be a mechanic to set it up or to move it.

Incorporates the latest design ideas all proven in actual service.

Sturdy and dependable without being cumbersome.

Engineered by conveyor specialists with more than 30 years of materials handling experience.

ASK FOR INFORMATION ALSO ON

ROLLER CONVEYORS

HORIZONTAL BELT CONVEYORS

LIVE ROLLER CONVEYORS

OVERHEAD CONVEYORS

COMPLETE HANDLING SYSTEMS

Mechanical Handling

Systems, Inc.

4600 NANCY AVE. • DETROIT 12, MICH.

Offices in Principal Cities

In Canada: Canadian Mechanical Handling Systems, Ltd.



material handling equipment in southern Ohio, parts of Indiana and Kentucky. Office and service personnel of the former Hyster dealer in that area have been retained. Organized by **Bart Nordling**, former eastern division parts and service manager, and **Fred Schultz**, former Hyster district manager, the new establishment will supply customers with machines, factory parts and service.

The American Engineering Co. has announced the appointment of a new exclusive material handling sales representative in the Denver, Colorado territory for the sale of Lo-Hed Electric Hoists and Car Pullers. The new representative is **Joe Coursey Equipment Co.**, 2470 Broadway, Denver, 5, Colorado.

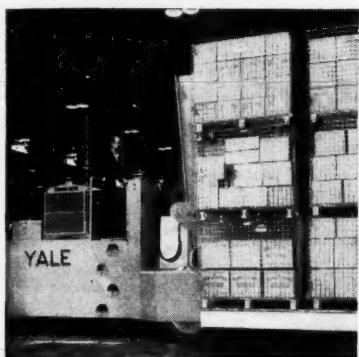
The Elwell-Parker Electric Co. has announced the appointment of the firm **Martin and Brown Engineering**, 2331 N. Meridian St., Indianapolis as exclusive representative in the Indiana area. Heading the firm is **W. H. Martin**.

Harry J. Ferguson Co., manufacturers of package handling conveyors, appointed **H. G. Davis, Inc.**, 8 St. Mary Street, Boston, Mass., as its exclusive distributor in the states of Connecticut, Massachusetts, Vermont, New Hampshire and Maine. The distributor will handle the complete line of Ferguson and Streamliner power, roller and belt conveyors.

James W. Bailey has been announced as the new president of **Grady W. Jones, Inc.** The distributor of material handling equipment is located in Nashville, Tennessee.

(Turn to page 144)

B.F. Goodrich



Extra-heavy loads to handle?



Floors being damaged?



Use hand trucks in your plant?



How many power trucks do you operate?



Any tires that need retreading?



Have the right type and size tire?

TIRE AND WHEEL ANALYSIS saves you up to 50%

• You can cut tire and wheel costs up to 50% on any materials handling job by using the right type, size and tread compound and following our suggestions. Proper maintenance alone cuts costs 10% to 20%. Let a trained B. F. Goodrich Tire and Wheel Analysis man look over your operations. Without charge or obligation he'll make impartial recommendations—impartial because only B. F. Goodrich makes industrial tires to meet every requirement.

Use the coupon for complete information on this new Tire & Wheel Analysis Plan.

*A similar plan is available for manufacturers
of industrial hauling equipment.*

BFG dealers sell and service a complete line of industrial tires.



The B. F. Goodrich Co.
Department TW-192
Akron, Ohio

Please give me additional information on your
new Tire and Wheel Analysis plan.

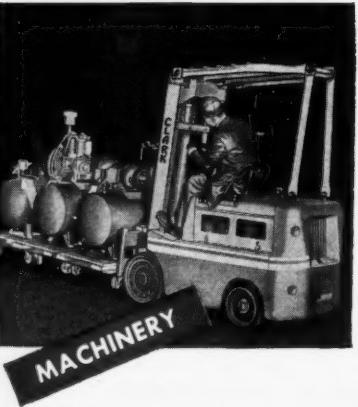
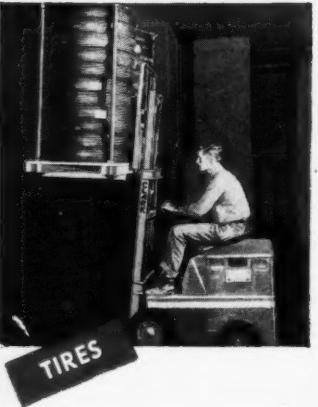
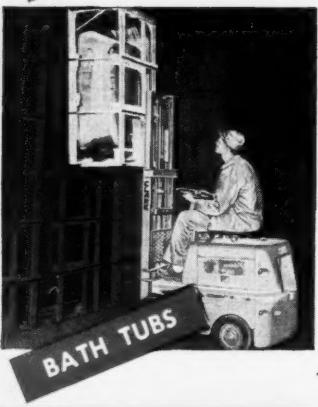
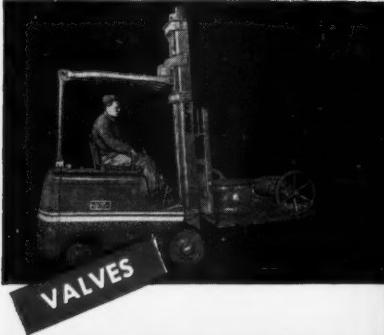
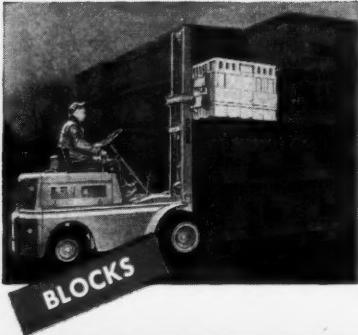
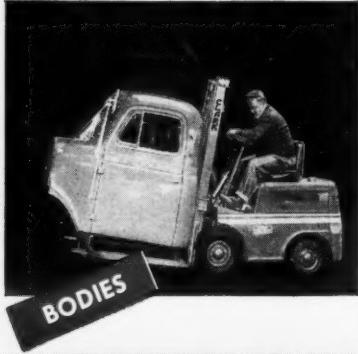
Name _____

Title _____

Company _____

City _____ State _____

Handle What You Will, CLARK



Circle No. 26 on Reader Service Card for more information

K Cuts Your Handling Bill



No matter what you handle, there are three hard-and-fast rules to follow in making a wise and profitable selection of materials-handling equipment:

1. Choose machines designed and engineered to handle your materials—whatever they are.
2. Choose machines that will do your job at the lowest possible cost.
3. Choose machines on which you know you can get prompt and expert service when and where it is needed.

Adherence to these rules leads straight to CLARK materials-handling equipment, as many hundreds of businesses—large and small—have discovered to their vast benefit.

There are CLARK fork-lift trucks, powered hand trucks, and industrial towing tractors in electric battery-powered, gasoline-powered and, in some cases, in diesel-powered types, designed specifically for your job. And if your job requires a special attachment, you'll probably find it already in existence and available to you, for CLARK has encountered and mastered handling problems of

the most difficult nature in almost every field of industry and commerce.

But if your handling is especially tough—if it really is different from any other—CLARK'S proved ingenuity, its long experience and its unrivaled engineering skill are at your service to develop exactly what is needed to do your job at the lowest possible cost.

Moreover, CLARK'S nation-wide system of Service Stations manned by Master Servicemen, unmatched by any other, always is as near to you as your telephone.



To learn more about CLARK materials-handling equipment and what it can do for you, fill out the coupon, attach to your business letterhead and drop it into the mail.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS



INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 13, MICHIGAN
Please send: Material Handling News Movie Digest Basic Facts
 Please have representative call.

Name _____

Firm Name _____

Address _____

City _____ Zone _____ State _____

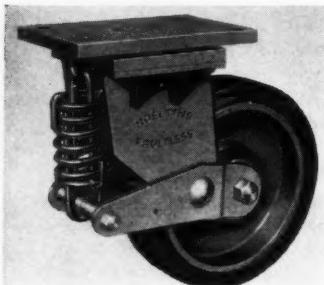
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

Circle No. 26 on Reader Service Card for more information

What's

NEW in equipment

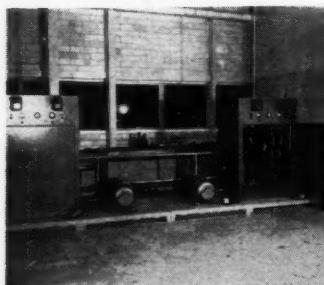
For more information on these products, use the postcard bound into this issue.



Soft Riding Swivel Caster—Faultless Caster Corp.

Here are five features cited by Faultless Caster Corp. for its Sh 300 series double action, spring cushion type swivel plate truck caster: 2 to 1 lever arm to reduce shock and lengthen spring life; extended wheel offset for easier swiveling; shock absorbing spring for lengthening life of bearings, raceways, wheel, etc.; springs of various load capacities easily interchanged to suit requirements; three types of easily interchanged standard wheels.

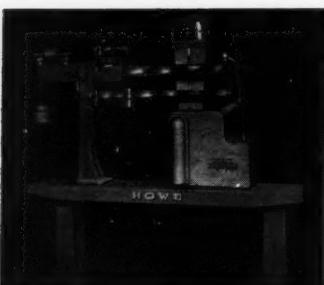
Circle No. 150 on Reader Service Card for more information



Two-Circuit Battery Chargers—Hertner Electric Co.

Shown here are two special 2-circuit chargers each to charge two sets of 16 cell 21 plate batteries simultaneously. The motor generator sets are 7½ kw., 15 hp, 1800 rpm, two ball bearings. Battery charging leads permit charging of batteries in the trucks. Truck forks go under the platform on which chargers are mounted, protecting the charger from injury and bringing battery closer to charger. Manufactured by Hertner Electric Co.

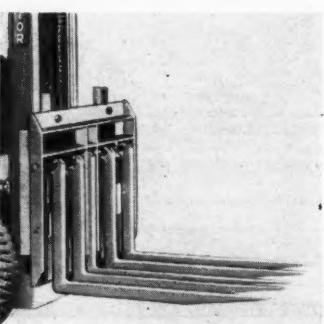
Circle No. 151 on Reader Service Card for more information



Weight Indicator—Howe Scale Co.

Any beam scale, or any scale convertible to beam operation can be fitted with this Weightograph scale unit, reports Howe Scale Co. The accessory features projection type weight indication. To attach, it is mounted on the beam shelf and connected to the beam with a rod. The unit features a non-protruding periscope with an eye-level screen. It is said to flash exact weight in large illuminated figures for easy, speedy and accurate reading.

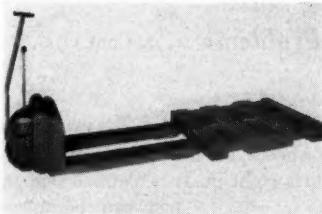
Circle No. 152 on Reader Service Card for more information



Side Shifter—Tomotor Corp.

Extra agility for handling full capacity loads in tight spots is said to be assured by the Townmotor side shifter. Lateral travel is 3½ in. to either side of center. It is designed to simplify placing loads tightly against walls, and to eliminate excessive maneuvering in areas where re-positioning the fork truck is difficult. According to Townmotor Corp., the attachment does not affect normal operation except for slight variation in load center and capacity.

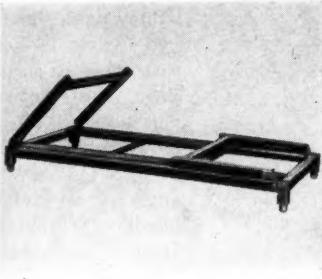
Circle No. 153 on Reader Service Card for more information



Hydraulic Hand Lift Truck—Service Caster And Truck Corp.

This hydraulic hand lift truck was designed especially for handling double-faced pallets, according to Service Caster and Truck Corp. Named the Leverlift, it features a forked-design platform with toggle boosters and helper rolls that enable it to slip easily into double-faced pallets without jockeying. Rear wheels then project through the bottom of the pallet and the load is lifted by action of the hydraulic pump. Capacity of the truck is 4000 lb.

Circle No. 154 on Reader Service Card for more information



Folding Stock Rack—Equipment Mfg. Inc.

A folding type stock rack with no detached or loose parts has been developed by Equipment Mfg. Inc. The rack is made of welded square steel tubing, and has nesting caps on its feet for stacking. It was designed primarily for handling sizeable stamping, parts, etc., but a solid floor can be laid on the rack for handling small parts and bulk material. Lift control on each end frame is said to permit quick folding. Telescoping tubular inserts provide positive locking in up position for safety and strength.

Circle No. 155 on Reader Service Card for more information



Diesel and Gasoline Powered Fork Trucks—Buda Co.

The Buda Co., has announced two new 3000 lb. capacity fork lift trucks. Model FT30-15 (see illustration) is gasoline powered, and model FTD30-15 is diesel powered. The gasoline powered model has a four-cylinder, 49 hp engine. The diesel model is powered by a diesel engine of identical cu. in. displacement, bore, stroke and mounting dimensions. Both are available in five standard masts with 72 in., 84 in., 108 in., 114 in., and 120 in. lift.

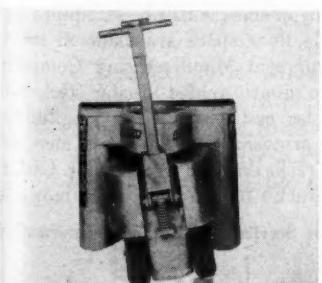
Circle No. 156 on Reader Service Card for more information



Adjustable Pallet and Skid Racks—Market Forge Co.

Every inch of existing storage space can be used to best advantage with these adjustable pallet racks and skid racks, according to Market Forge Co. By arranging units in tiers, air space is utilized to the maximum, providing increased manufacturing space where storage space had formerly been located. Articles stored on these racks are easily seen for checking purposes. The racks can be constructed to suit any special problem or requirement and are designed to cut down material handling costs in any plant.

Circle No. 157 on Reader Service Card for more information



Articulating Drive Wheels—Revolver Co.

Power drive wheel articulation for its powerized walkie trucks has been announced by Revolver Co. The 1 1/8 in. articulation is said to give unusual traction under even adverse conditions such as uneven floors, and floors worn and roughened with use. It is said to glide over door saddles and go up and down ramps easily. Other features pointed out by the company for its trucks include: controls centered at operators finger-tips, and automatic braking.

Circle No. 158 on Reader Service Card for more information

Turn The Page →

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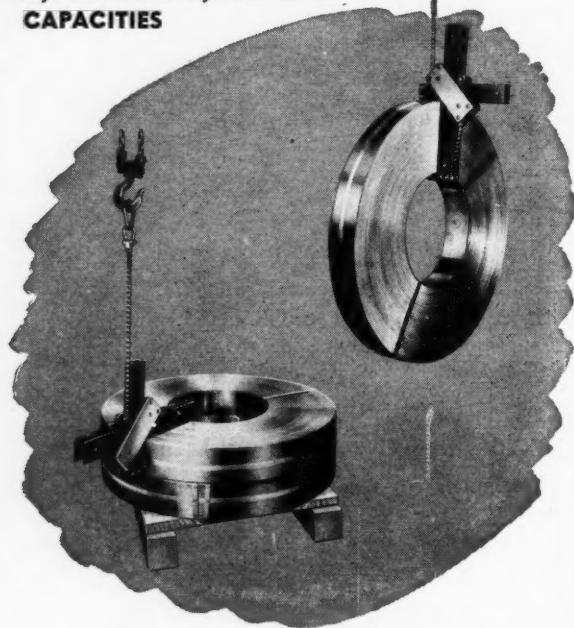
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FLOW

DIXON

One Man Coil Grab

AVAILABLE IN
2,000 and 5,000 LB.
CAPACITIES



Automatically Adjusts to Coil Size!

Coils can now be lifted from the pallet to a vertical position in one easy motion. A tapered prong fits between the coils in the space made by the coil bands. The opposite jaw is placed in the center of the coil. As the crane lifts the Dixon Grab automatically adjusts to the width, outside and inside dimensions of the coil and locks by its own weight as illustrated.

The Dixon Grabs handle coils up to 5,000 lbs. They are adjustable for varying widths of coils as well as varying diameters. See your dealer or write direct for full price information and catalog sheets.

Dealer Inquiries are Invited

MATERIALS HANDLING DIVISION

DIXON
RESEARCH INC.

2300 23rd AVE. • ROCKFORD, ILL.

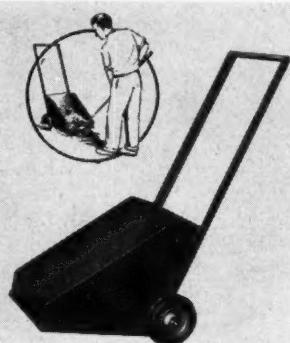
Circle No. 27 on Reader Service Card for more information

32

New Products To Solve Your Handling Problems . . . (Cont.)

Industrial Dust Pan—Palmer-Shile Co.

Here's a dust pan on wheels. To use it, you push it into position, and sweep debris right in. It is claimed that the pan can be moved around into places too restricted for a wheelbarrow.

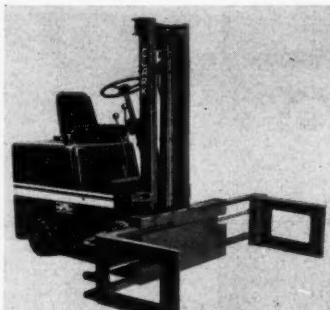


It is light weight, weighing 45 lb.; is constructed of 16 gauge sheet steel; metal pan measures 18 in. by 18 in.; frame is of 1" x 1½" x ¼" angle iron with handle of 1" tubing. It is of all welded construction. Overall height is 48 in. Two eight in. rubber tires are mounted on ball-bearing wheels.

Circle No. 159 on Reader Service Card for more information

Cotton Clamp—Clark Equipment Co.

Clark Equipment Co. reports that it has redesigned its cotton clamp to incorporate several improvements, and now designates it the Wide Spread Clamp. Inside diameter of the clamping cylinder has increased to 2½ in. to permit clamp operation under lower proportionate working pressures, with a top limit of 1,000 lb. psi. It is claimed that this gives greater efficiency and longer life. Maximum clamp spread has been increased to 69 in., but overall width of the assembly remains at 40 in.



Circle No. 160 on Reader Service Card for more information

Stock Racks—Equipment Mfg. Co.

Stock racks that help you stack stuff like stampings and motors to save valuable floor space are made in twelve standard sizes by Equipment Manufacturing Company. The rack's members are square welded tubular steel, with removable end frames for end loading. The longitudinal hardwood planks and provisions in the cross members make it easy to bolt the racks down to a solid floor. Casters can be attached to the rack's feet to make them movable.

Circle No. 161 on Reader Service Card for more information

Turn to page 34

JULY, 1952 • FLOW

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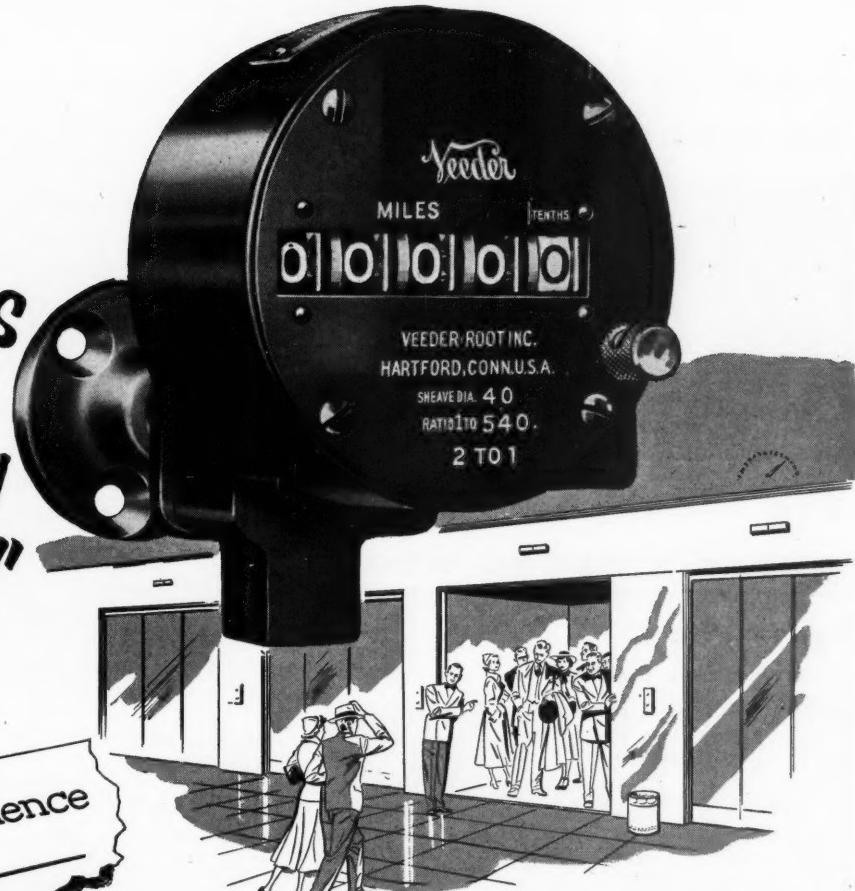
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*It counts
your
"UPS and
DOWNS"*



Added Evidence
that

Everyone Can Count on

VEEDER-ROOT

Elevator Mileage Recorders give accurate figures on vertical miles . . . so that it can be plainly seen... *in advance*...when it's time to replace cables, overhaul cars, motors, and what have you . . . *including your life.*

Yes, the V-R wheelmark monogram protects millions of people daily, from the depths of the sea to the stratosphere. Of course, not all V-R Products and services are available nowadays

. . . but if your work counts importantly in defense, then you can count on Veeder-Root to help you, as soon as rush commitments permit.

VEEDER-ROOT INCORPORATED

"The Name That Counts"

HARTFORD 2, CONN.

Chicago 6, Ill. • New York 19 • Greenville, S. C.
Montreal 2, Canada • Dundee, Scotland

Offices and agents in principal cities

"Counts Everything on Earth"



Circle No. 28 on Reader Service Card for more information

from coast to coast business acclaims



**the ideal racks to fit
every storage need**

here's another
American Rack installation



Acme Quality Paints, Inc.
Detroit, Michigan



Send for Catalog



5963 Linsdale • Detroit 4, Michigan

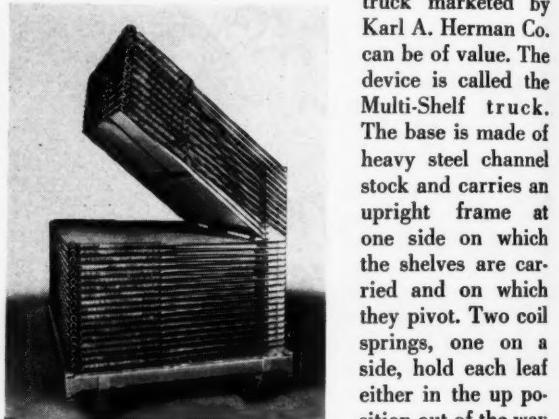
Circle No. 29 on Reader Service Card for more information

34

New Products To Solve Your Handling Problems . . . (Cont.)

Spring Leaf Truck—*Karl A. Herman Co.*

Where large quantities of small parts or materials have to be stored and moved between operations, a spring leaf truck marketed by Karl A. Herman Co.



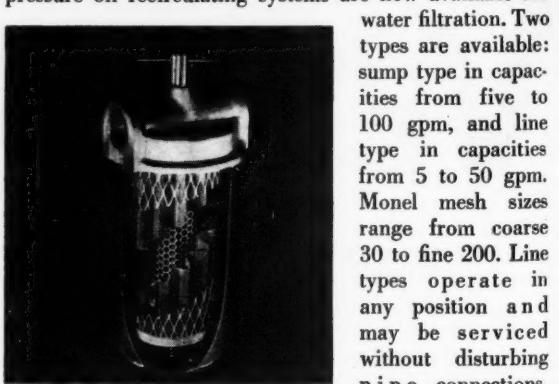
can be of value. The device is called the Multi-Shelf truck. The base is made of heavy steel channel stock and carries an upright frame at one side on which the shelves are carried and on which they pivot. Two coil springs, one on a side, hold each leaf either in the up position out of the way

or else lock the leaf in place horizontally. The truck can be built in any size and with any spacing between leaves.

Circle No. 162 on Reader Service Card for more information

Water Filter—*Marvel Engineering Co.*

Marvel Synclinal filters, formerly used primarily for low pressure oil recirculating systems are now available for water filtration. Two types are available:



sump type in capacities from five to 100 gpm, and line type in capacities from 5 to 50 gpm. Monel mesh sizes range from coarse 30 to fine 200. Line types operate in any position and may be serviced without disturbing pipe connections.

The synclinal design is said to provide maximum filtering area with a large capacity for accumulating filtered out matter, thus allowing longer periods of operation between cleanings.

Circle No. 163 on Reader Service Card for more information

Turn to page 122

HERE'S WHERE YOU START...



TO GET LOWER MATERIALS HANDLING COST...

These are facts that should interest every manufacturer:

- 1.—More than 30 percent of the cost of the average manufactured product comes from handling expenses.
- 2.—Handling adds nothing to the value of the product.
- 3.—Reducing handling costs is the one way to lower product costs without sacrificing quality.
- 4.—Four out of five plants could further reduce handling costs.

- 5.—The Powell representative is a material handling expert who will be happy to work with you in developing the most efficient handling system possible.

There are Powell representatives serving the 54 largest industrial areas in the nation. For the name of the one nearest you check the yellow pages in your phone book or write direct. He'll be happy to give you the benefit of his wide experience with no obligation whatsoever.

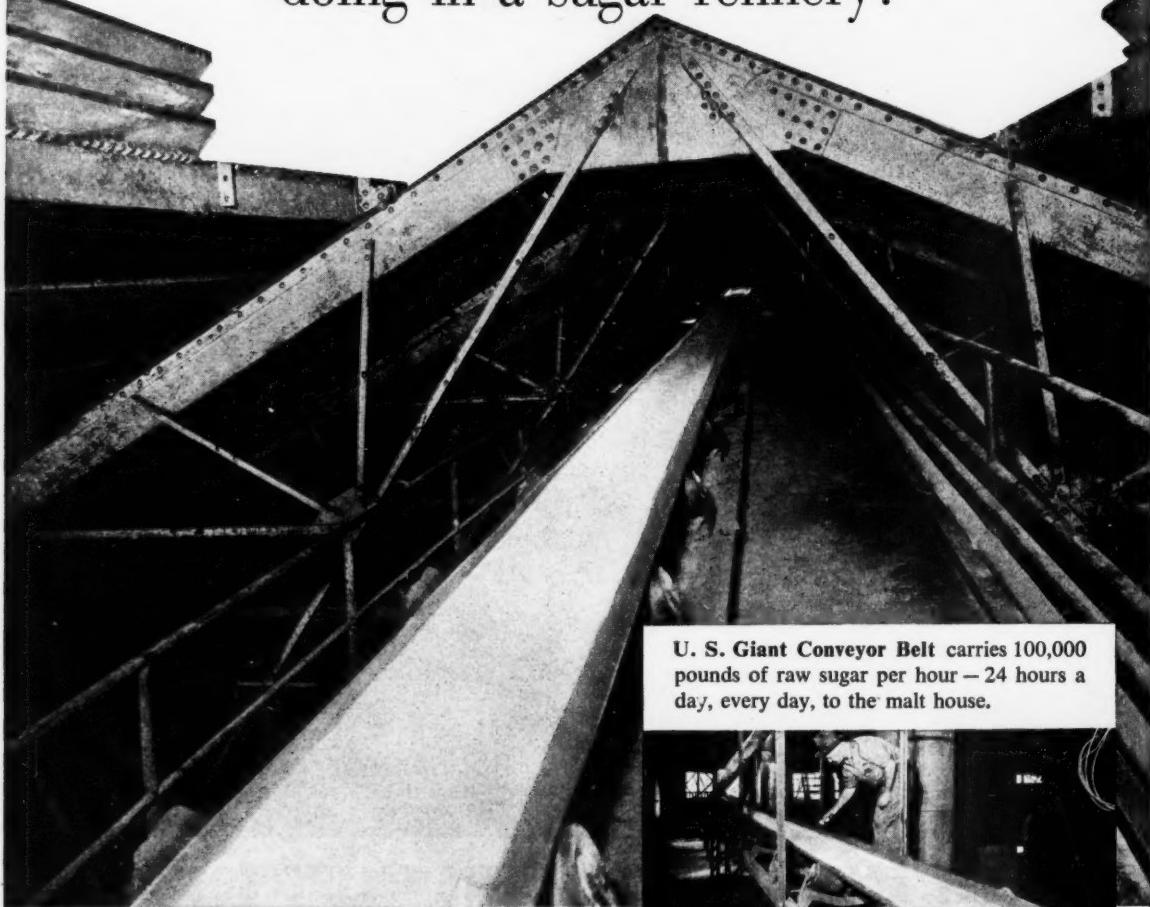
THE POWELL PRESSED STEEL CO., HUBBARD, OHIO

ORIGINATORS OF ALL STEEL COLD FORMED MATERIALS HANDLING EQUIPMENT
Dept. 272

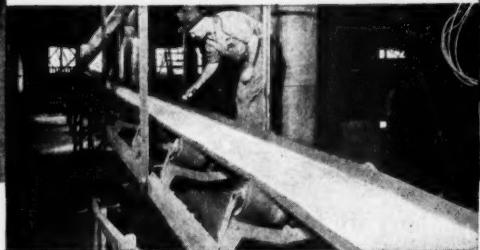


Circle No. 30 on Reader Service Card for more information

What are U. S. Rubber Conveyor Belts doing in a sugar refinery?



U. S. Giant Conveyor Belt carries 100,000 pounds of raw sugar per hour — 24 hours a day, every day, to the malt house.



U. S. Giant Conveyor Belt carrying wet sugar from mixers to granulators.



U. S. White Sugar Conveyor Belt carrying refined and finished sugar to the packaging room.

PRODUCTS OF
U.S.RUBBER
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

Circle No. 32 on Reader Service Card for more information

ONE always stands out!

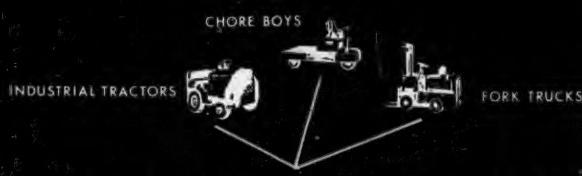
in fork trucks it's BUDA



DIESEL Powered for economy

Deliberately designed "years ahead" to give you more style, performance and operating economy, the new Budas are as beautiful as they're tough... as brilliant as they're efficient. Packed with more than 50 exclusive functional design features and powered by *our own* million-hour proved Buda Industrial Type Diesel or gasoline engines, Buda "FT" Series Fork Trucks are truly "tomorrow's trucks today."

See them at your Buda Distributor now. Write for Bulletin 1570 and complete details today. The Buda Company, Harvey, Illinois



BUDA

BH-43

Circle No. 31 on Reader Service Card for more information

**SO much
accomplishes so little...**



LAMSON AIRTUBE SYSTEMS

This is "Mail Gal" Millie in a characteristic pose. It's nearly five, and she's about to dump that avalanche of paper (some of it "RUSH") on the order department. The nightly routine of delayed shipments, lost tempers, and overtime work is about to start.

Sound familiar? Then why chain the efficiency of your whole plant to the whims of "Mail Gal" Millie . . . particularly when a Lamson Airtube System, along the routes of heavy paper traffic, will handle every type of office form—even whole file folders. And what's more important, an Airtube System distributes paperwork as soon as received, automatically equalizing work load. Lamson Airtube Systems also handle small tools, samples for quality control, and similar items.

See for yourself the wide application of efficiency-boosting Lamson Airtube Systems to business and industry, large and small. Write for descriptive technical bulletin, "On Target." Address Lamson Corporation, 1300 Lamson St., Syracuse 1, N. Y. Offices in principal cities.



LAMSON



Circle No. 33 on Reader Service Card for more information

38

Literature featured in ads

The American MonoRail Company would like to show you how its overhead handling system can speed up loading and unloading time, improve space utilization, reduce material damage and better working conditions.

Circle No. 38 on Reader Service Card

A brochure from The Chas. Wm. Doepeke Mfg. Co., Inc. describes the Nestier and Nestier System. A space saving feature is one of the advantages of this material handling box.

Circle No. 93 on Reader Service Card

Information on conveyor belt lacing is included in Bulletin A-60, available from Flexible Steel Lacing Co. A hammer is all that is needed to apply it.

Circle No. 119 on Reader Service Card

If you have a lifting problem, you have a problem made to order for a Globe lift, says Globe Hoist Company. Bulletin F 419 includes information on the various lifts and ramps made by this company.

Circle No. 52 on Reader Service Card

A 20-page booklet from Gould-National Batteries, Inc., shows efficient, charging room layouts. It shows how cranes, hoists, battery stands, charging equipment and stations can be located in any size room for maximum efficiency, handling speed and safety.

Circle No. 41 on Reader Service Card

Silent Hoist & Crane Co. offers Bulletin No. 73 which describes a front-boom mobile crane to deliver all the loads in your plant.

Circle No. 112 on Reader Service Card

You don't have to pay BIG MONEY
to get BIG TRUCK advantages

Industry cuts handling costs with **YALE WORKSAVERS**

YALE WORKSAVER Electric Trucks are ideal where size and weight make big trucks impractical...over low-load floors; in freight elevators; railroad cars and trucks.

Industry prefers YALE WORKSAVERS because they offer big-truck efficiency for less cost, plus these big truck advantages: forward and reverse power travel...powerful hydraulic lift.

MAKE THE MOST of your time and space

—YALE Electric Worksavers, industry's leading powered hand trucks, move loads up to 7,500 lbs. into and out of all storage and production areas.

MAKE THE MOST of your manpower

—one part-time operator and a YALE Worksaver transport, lift and stack multiton loads safely, surely and smoothly.



Heavy-duty platform **Yale WORKSAVERS***

*Yale's Electric Hydraulic
Powered Hand Truck



ASK YOUR YALE REPRESENTATIVE FOR A FREE DEMONSTRATION OF THE WORKSAVER LINE
See how their many practical advantages and money-saving features can be put to work for you. Be sure to ask about the famous Worksaver Power Team—Truck, Battery, Battery Charger.

Yale is a registered trade mark of The Yale & Towne Manufacturing Co.



MAIL THIS COUPON TODAY

The Yale & Towne Manufacturing Co., Dept. 47
Roosevelt Blvd. & Haldeman Ave., Phila. 15, Pa.

I want to know how YALE WORKSAVERS can help me.

- Please have your local Representative call.
 Please send free copy of GEMS OF LOW COST MATERIALS HANDLING.

Company _____

Name _____ Title _____

Street _____

City _____ State _____

In Canada write: The Yale & Towne Mfg. Co., St. Catharines, Ont.

YALE GAS AND ELECTRIC TRUCKS • YALE WORKSAVERS • YALE HAND TRUCKS • YALE HAND AND ELECTRIC HOISTS • YALE PUL-LIFTS

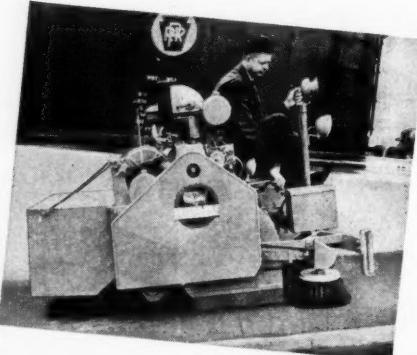
Here's ONE Expense you CAN Cut 75%!

(AND WE'LL PROVE IT TO YOU RIGHT IN
YOUR OWN BUILDINGS AND YARDS)



OUTSIDE

WILSHIRE Power Sweepers not only sweep faster...they sweep cleaner. With the operator riding; rate of sweeping is maintained hour after hour without fatigue...on windy days as well as in good weather. Head, tail and spot lights are provided for continuous service on Models 1000 and 1000-S. Plenty of power to climb ramps and grades.



EVERYWHERE A MAN CAN HANDLE A BROOM

Easy, positive steering, short turning radius and unobstructed visibility for the operator make it easy to sweep right up to walls and posts. The Side Sweeper, available on most models, is easily adjusted for sweeping deep or shallow gutters. The WILSHIRE Power Sweeper does everything a man can do with a broom...better, faster and safer.

Write for Illustrated Brochure and the name of your nearest WILSHIRE Dealer who will be glad to give you a Free Demonstration, right in your own plant.



WILSHIRE
POWER SWEEPERS

526 West Chevy Chase Drive
Glendale 4, California

IN CANADA • PLANT MAINTENANCE EQUIPMENT CO. • VANCOUVER & TORONTO

Circle No. 35 on Reader Service Card for more information

40

Literature from The Belt Corporation describes the Belt Versaveyor, a light-weight, low-cost bag and box handler. This portable belt conveyor is made in 13, 15, 17 or 19-foot lengths.

Circle No. 85 on Reader Service Card

Here's a boom that reaches for extra jobs. It's the Bucyrus-Erie 3-ton Hydrocrane with hydraulically telescoping boom. Descriptive literature from Bucyrus-Erie Hydrocrane Division points out the advantages of this boom.

Circle No. 3 on Reader Service Card

Marietta engineers will plan, design and erect a storage system to meet your present and future plans. Tanks can be equipped with loading and unloading facilities to speed material handling. Full details and illustrated literature are available from The Marietta Concrete Corporation.

Circle No. 94 on Reader Service Card

American Chain & Cable Co., Wright Hoist Division, offers literature on its Speedway hoist, made in capacities from $\frac{1}{4}$ to 10 tons. This hoist is designed for hook, lug or trolley suspension.

Circle No. 12 on Reader Service Card

Catalog from American Sales Engineers, Borroughs Mfg. Division, describes the rack to fit every storage need. It's erected without bolting or welding.

Circle No. 29 on Reader Service Card

Built to operate with smoothness and accuracy from four grouped controls at the operator's fingertips, Coles cranes range in capacity from $1\frac{3}{4}$ to 23 tons. Coles Cranes, Inc., will send details.

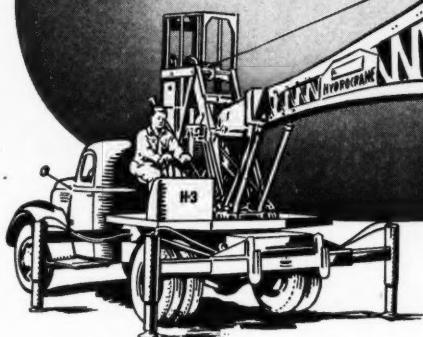
Circle No. 95 on Reader Service Card

Standard Conveyor Company calls their gravity and power conveyors "modern time and cost savers." Standard Bulletin 63 B describes these units.

Circle No. 45 on Reader Service Card

JULY, 1952 • FLOW

Here's a Boom That REACHES For Extra Jobs



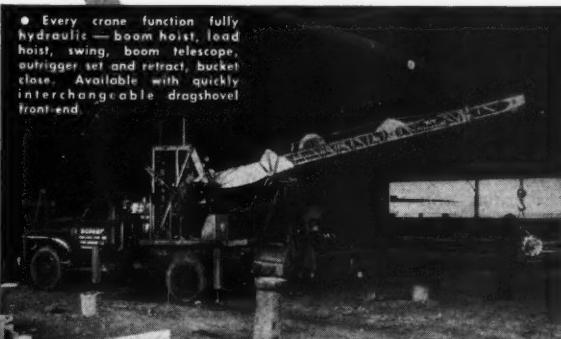
**BUCYRUS
ERIE**
HYDROCRANE

The Bucyrus-Erie 3-ton Hydrocrane with hydraulically telescoping boom reaches into windows and box cars . . . over machines and crates . . . under beams and overhanging rafters . . . between wires and latticing — without moving crane an inch! Boom extends and retracts a distance of eight feet.

The outstanding advantages of telescoping boom plus precision hydraulic control combine to make the Hydrocrane ideal for moving crates — pre-assembled sections . . . loading and unloading cargo . . . stockpiling bulk materials . . . dozens of digging, lifting, dismantling and repair jobs in and around the plant.

Here is a crane that owners keep busy all the time around a factory. Get full details. See your Hydrocrane distributor or write for descriptive literature. 174H52

- * **Sure-Footed** — outriggers extend or retract hydraulically in seconds.
- * **Speedy** — 50 mph. top highway speed.
- * **Squeeze-in Specialist** — shortest tail swing of any crane, size for size.
- * **"Dead Man" Control** — if operator lets go of levers, load stops dead.
- * **Velvet Smooth** — all work functions powered by a cushion action hydraulic system.



BUCYRUS-ERIE HYDROCRANE DIVISION • South Milwaukee, Wisconsin

Circle No. 36 on Reader Service Card for more information

BUILT FOR TODAY'S GREATER POWER NEEDS THE IMPROVED

Exide-Ironclad
for battery-electric trucks
of all types, sizes and makes

IT'S OUTSTANDING...in design, performance, length of life. Back of the improved Exide-Ironclad battery are years of progressive research-engineering that have developed a continuous flow of improvements. *Now comes another great advancement...*

A NEW and EXCLUSIVE FEATURE—the polyethylene insulating tube sealer. This and other major improvements combine to make Exide-Ironclad, *more than ever before, YOUR BEST POWER BUY...AT ANY PRICE.*

BUILT TO GIVE YOU...

RAPID ACCURATE HANDLING...UNIFORM RATE OF HANDLING...HIGH AVAILABILITY...LOW OPERATING COSTS...LOW MAINTENANCE COSTS...LOW DEPRECIATION COSTS...HIGH MANEUVERABILITY...SAFE HANDLING

BECAUSE OF...

IMPROVED POSITIVE PLATE CONSTRUCTION

...the long-life grids now contain SILVIUM—an alloy of silver, lead and other components—which make them highly corrosion resistant. Top conducting bar is heavier.

...with the New Polyethylene Insulating tube sealer

An insulating sealer for the bottom of the tubes. Acid-proof, non-corroding plastic, it fits snugly into slotted tubes of positive plate, and reduces loss of active material. Even the small sediment deposit of the past is reduced 50%. Thus, more active material remains available, and the high battery capacity is sustained for longer working life.



Circle No. 37 on Reader Service Card for more information

PERMANIZED NEGATIVE PLATES

Improved processing, a result of Exide Quality Control assures uniform plates with higher electrical efficiency. These negatives, teamed with the improved positive plates, give you a well-balanced combination for hard service and long life.

NEW SEALING COMPOUND

Through the cooperative efforts of Exide Laboratories and the Franklin Institute, a new homogeneous compound was developed. It makes a permanent seal between the jar and cover, resisting shock without cracking in high or low temperatures.

SEAMLESS SHOCK-PROOF JAR

Made of high quality rubber. A scientifically selected combination of tensile strength and elongation provides a sturdy jar built for long life and heavy-duty service.

CORROSION RESISTANT TRAY GUARD

A plastic acid-resistant steel tray coating with high insulating quality and ability to withstand hard knocks.

NEW UNBREAKABLE PLASTIC VENT PLUGS

Made of unbreakable polyethylene. Can be quickly and easily removed to add water.

Types and sizes for storage battery applications in all heavy-duty services.

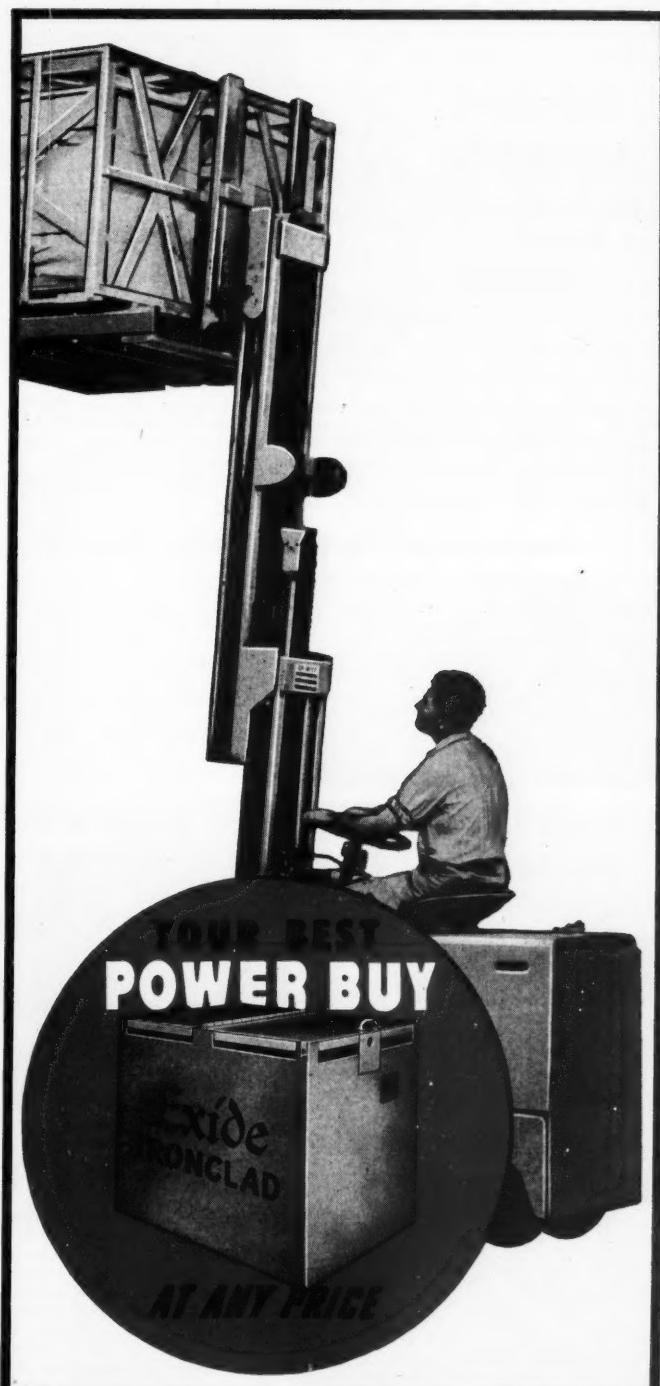
Write today for further information.

THE ELECTRIC STORAGE BATTERY CO.

Philadelphia 2

Exide Batteries of Canada, Limited, Toronto

EXIDE-IRONCLAD and "PERMANIZED" Reg.
Trade-marks U. S. Pat. Off. "SILVIUM" T. M. Reg.
applied for



**MODERN TIME and
COST SAVERS BUILT BY...**



**Standard
LITEWATE
Sectional
Roller
Conveyor**



**LIGHT
AND EASY TO CARRY
Put it where you
need it!**

— ideal for loading and unloading trucks and conveying jobs that require moving about — one man can easily pick up and carry a section or curve with little effort. Handles commodities weighing up to 60 lbs. — moves bags, cases, cartons, hollow bottom, narrow, cleated and irregular packages or articles not suited to wheel conveyors. Available in 10 ft. and 5 ft. straight sections and 90° and 45° curves. Write for Bulletin 63 B — address Dept. FL-72.

Standard All Purpose Roller Conveyor



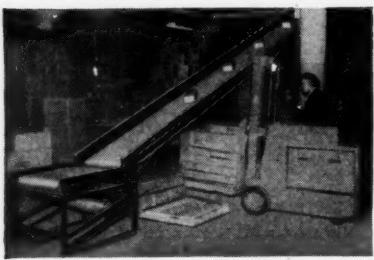
— available in a complete line of roller sizes and capacities designed to allow the selection of the best roller for the job, from a 1 inch diameter roller, capacity 35 lbs., to a 3½ inch diameter with a capacity of 550 lbs. Any commodity with one smooth riding surface can be carried — boxes, cases, cartons, lumber, milk cans, brick, building tile. Straight sections and 90° and 45° curves. Write for Bulletin 63 B — address Dept. FL-72.

**Faster Handling in Shipping Rooms with the
HANDIBELT**

— conveys bags, cartons, boxes horizontally or at any decline and incline angle within its range. Easily wheeled about by one man — easy to adjust and use — fits in crowded aisles, cars, freight elevators. Handles packages up to 135 lbs. Can be placed in series to form a complete conveyor line. Available in 3 sizes: No. 11, No. 16, and No. 21 with 14 and 21 inch belt widths. Write for Bulletin No. 63 B — address Dept. FL-72.



**Lift or Lower . . . Floor to Floor . . . with the
INCLINEBELT**



— move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously. Compact, simple to install — minimum maintenance. Lift or lower 10 to 20 lbs. of live load per ft.; floor elevations of 8 ft. to 14 ft. 6 inches inclusive; belts widths — 8, 12, 14, 18 and 24 inches for commodities of various sizes. A horizontal feed section is generally used to deliver commodities to the Inclinebelt. Write for Bulletin 63 B — address Dept. FL-72.

STANDARD CONVEYOR COMPANY

General Offices: North St. Paul 9, Minnesota
Sales and Service in Principal Cities

Send for Standard
Bulletin 63 B describ-
ing gravity and pow-
er conveyor units
address Dept. FL-72.



Circle No. 45 on Reader Service Card for more information

Details are available from The Kilbourne & Jacobs Mfg. Company on K&J trucks and casters. Included are 2-wheel trucks, platform trucks and trailers.

Circle No. 124 on Reader Service Card

Bulletin DB-203 from Magline, Inc., describes this company's magnesium dock boards, which are said to provide strength-to-spare for the heaviest of loads and equipment—yet are easily handled by one man.

Circle No. 114 on Reader Service Card

An electric tiering truck that tiers loads from 6-foot aisles is described in Bulletins 730 and 770 from The Raymond Corporation. Made in capacities of 2000 and 3000 pounds.

Circle No. 17 on Reader Service Card

Load protection on a new level of efficiency is claimed by Faultless Caster Corporation for its spring action casters. Catalog data includes complete load capacities and specifications.

Circle No. 1 on Reader Service Card

Dixon Research Inc. offers information on its one-man coil grab which automatically adjusts to coil size. Coils can be lifted from the pallet to a vertical position in one easy motion.

Circle No. 27 on Reader Service Card

U. S. Rubber conveyor belts are doing many different jobs in a sugar refinery, including the handling of raw sugar, wet sugar and refined sugar. The United States Rubber Company has information on the performance of these belts.

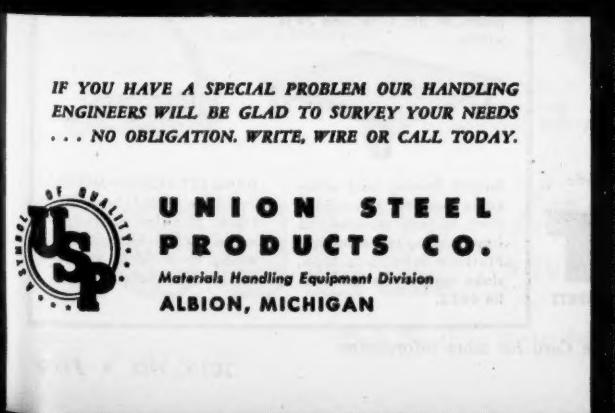
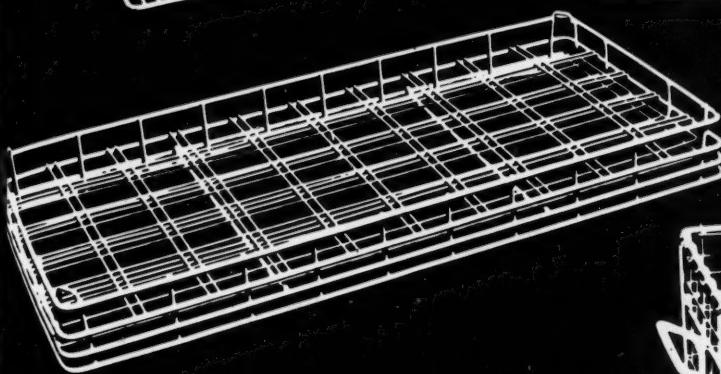
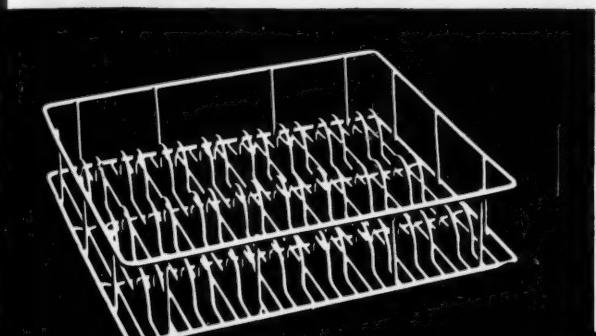
Circle No. 32 on Reader Service Card

International's custom designed heavy-duty shipping containers are being used to solve packaging problems, according to International Paper Company, Container Division. Information is available.

Circle No. 72 on Reader Service Card

JULY, 1952 • FLOW

Here are the benefits
you will get from
UNION STEEL
**Handling
Baskets**



**UNION STEEL
PRODUCTS CO.**
Materials Handling Equipment Division
ALBION, MICHIGAN

• Built-for-the-job design . . .

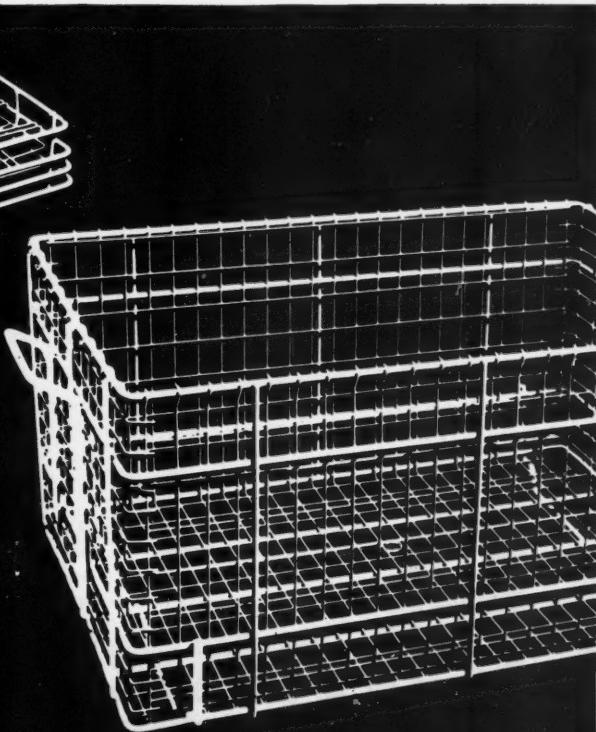
Each Union Steel handling basket is designed to do a specific job or jobs in a simplified, highly efficient manner that cuts time and cost for you. Note the projecting handles on the degreasing or cleaning basket, lower right, and the nesting features shown on center basket. They make your dipping or bathing operations quick and easy.

• Rugged, durable construction . . .

All Union Steel handling baskets are of heavy-duty wire, permanently electro-welded, and are resilient enough to stand years of rough usage. The basket at the top was designed to carry heavy gear segments through production operations.

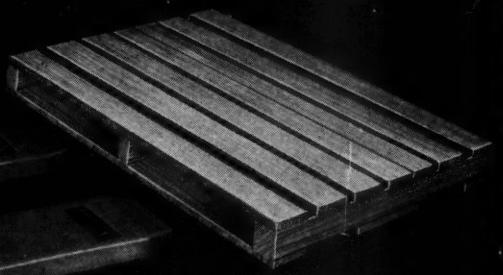
• Versatile performance . . .

You'll find a profitable place for Union Steel handling baskets wherever you are washing, dipping, degreasing, storing, shipping or otherwise handling small parts. You'll get maximum protection for your products plus exceptional ease of handling with these light-weight, low-cost, highly efficient baskets.





Model EX—new and improved
Barrett Hydraulic
Pallet Truck



Model EX Hydraulic Pallet Lift-truck. Capacity 2500, (4000 and 6000 lb. capacities available). 25", 27" or 30" frame width. Fork length, 36" to 60". Height, lowered 3 1/4". Lift, 4".

Here's the last word in safe, economical handling of single or double-faced pallets. It's made for fast, easy operation . . . built for years of service. The improved Model EX is ideally suited as auxiliary equipment, often eliminating the expense of power truck operations.

Barrett Pallet Trucks need less operating space with their short turning radius—get into tight corners with no lost-time gaps; materials movement is continuous. Standard 4" lift prevents snagging. Complete hydraulic lifting and lowering—with any desired number of strokes to raise the load. It gives you operation for light loads—less effort for heavy ones. Just step on release treadle to lower.

Check ALL the features and you will know why Barrett Hydraulic Pallet Trucks are industry's choice.

Write for literature.

BARRETT-CRAVENS COMPANY

4619 S. Western Blvd., Chicago 9, Illinois

Representatives in All Principal Cities

Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada

BARRETT
ONE MAN DOES MORE THAN 3 OR 4 . . . WITH A BARRETT



For skid handling . . . the Model ED, powerful Barrett Hydrolift Junior with full hydraulic multi-stroke lifting and lowering. Widespread front wheels for stability, even with high loads. 2500, 4000 and 6000 lb. capacity. 4" lift. 17 3/8" and 24 3/8" widths.



Barrett Steeleg Skid eliminates needless extra handling. Material stays on skid from loading to destination. Platform type, box type, stake type. Write for Bulletin 4882.



HAND LIFT-TRUCK—MODEL J—Single stroke type lift-truck; popular all-round model—2500 lb. capacity. Model R—4000 lb. capacity. Ask for Bulletin 5110.

Circle No. 40 on Reader Service Card for more information



PLAN TOMORROW'S CHARGING ROOM TODAY!

This free 20-page booklet showing efficient, charging room layouts is just what you need to put system into your battery charging operations. It's the latest addition to the vast fund of technical information available to you under the Gould Plus-Performance Plan. Shows how cranes, hoists, battery stands, charging equipment and stations can be located in any size room for maximum efficiency, handling speed and safety. You'll need it tomorrow ... so send for it TODAY.

The Gould "Thirty"
America's Finest
Industrial Truck Battery



You may be able to save up to 50% on your industrial truck battery costs by using the Gould Plus-Performance Plan. Write Gould Battery Information Headquarters for full information.

GOULD

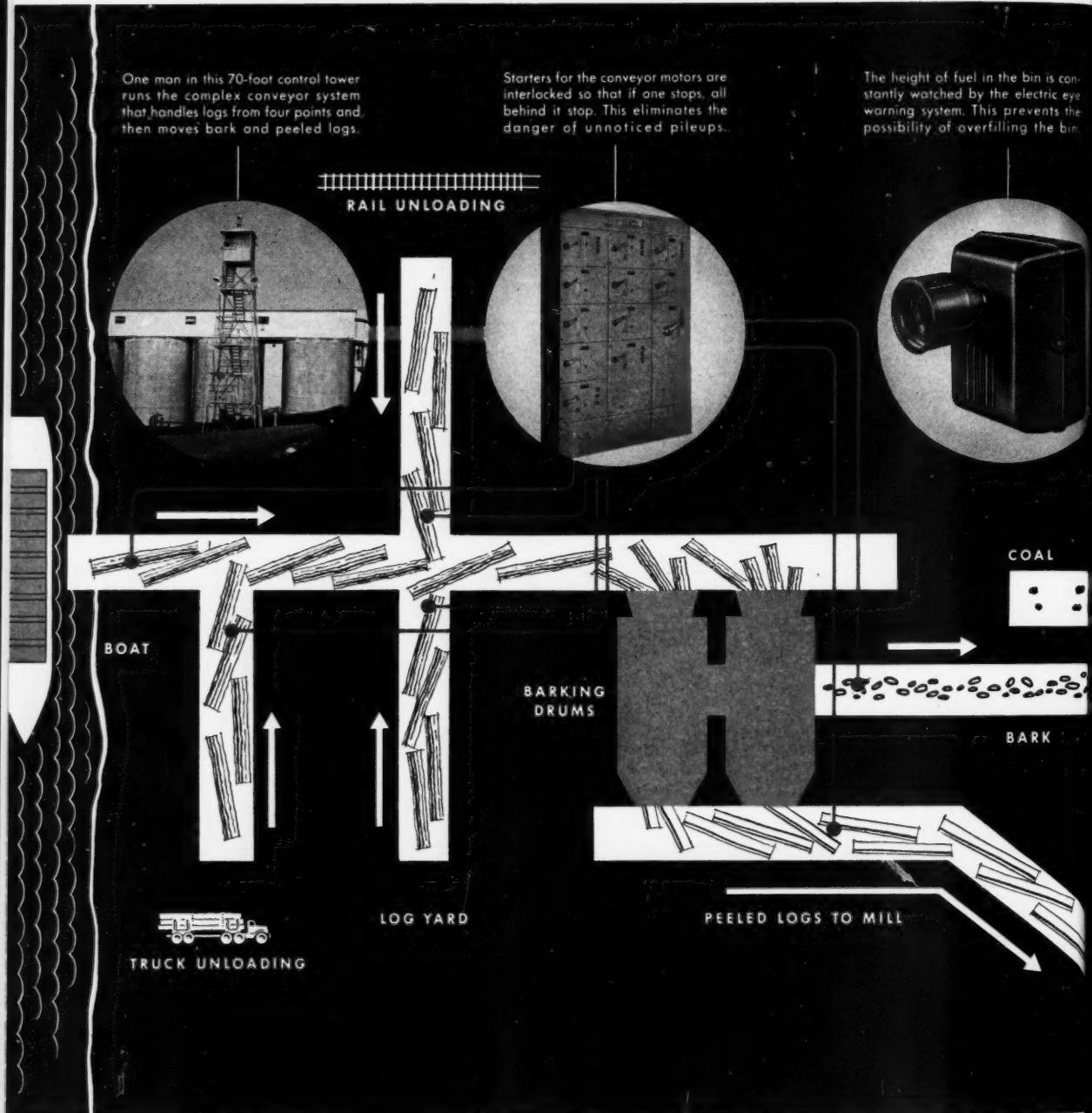
Industrial Batteries

GOULD-NATIONAL BATTERIES, INC., TRENTON 7, N.J.

Always Use Gould-National Automobile and Truck Batteries

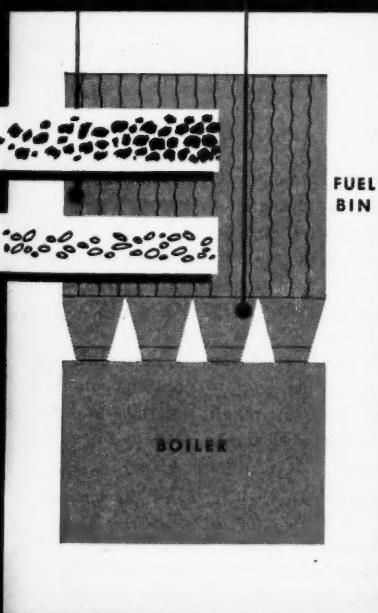
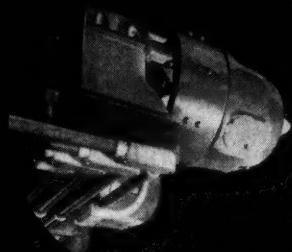
Circle No. 41 on Reader Service Card for more information

They did what you can do to produce more



Look at all the control features built into this conveyor line

These Westinghouse gearmotors drive boiler screw feeds. They operate as slow as $\frac{1}{2}$ rpm on coal feed, as fast as 25 rpm on bark feed.



This modern conveyor system in a paper mill is full of electrical control ideas that you may be able to use in your plant. Using electric eyes and special drives, Westinghouse engineers developed a semiautomatic system that greatly boosts plant productivity.

Interlocked conveyors controlled from tower

The first handling problem was to feed logs to central "barking drums" from four points. After barking, the peeled logs go to the mill, while the bark is sent to a burner. So a co-ordinated conveyor system was set up with all lines *electrically interlocked*. If one line stops, all behind it stop, thus eliminating the chance of unnoticed pile ups. The whole operation is controlled by one man from an elevated control tower in the yard.

"Electric eyes" guard bin loading depth

The bark is a valuable fuel so it's sent to the fuel bin. Coal is also fed by a separate conveyor. It's important that the bin not be overfilled, so an electric eye constantly "watches" fuel height in the bin and "reports" to a central control panel. A warning sounds if overfilling takes place.

Feeding rate instantly varied to meet load

The bark and coal are fed into the boiler by screw feeds at the bottom of the bins. A Westinghouse Mot-O-Trol® Drive with a gearmotor varies the feed speed from $1\frac{1}{2}$ rpm to 25 rpm. This wide range is required to meet the difference in heating value between burning coal and bark. And when the boiler steam load changes, the drives instantly adjust to the new firing rate.

Call Westinghouse early on your next project

This outstanding system is typical of the thinking Westinghouse applies to materials-handling problems. We make a complete line of drive equipment. When your next project comes up, call Westinghouse early in the planning stage. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-94928

YOU CAN BE SURE...IF IT'S
Westinghouse

**EQUIPMENT FOR
MATERIALS HANDLING**



for LARGE PLANTS ...and SMALL ONES



BAUGHMAN CONVEYOR ASSEMBLIES

Handle your bulk materials at the lowest cost per ton with Baughman "Standardized" units. All drives and accessories designed to your individual requirements, yet manufactured in sectional assemblies to provide an efficient, economical plant operation at a much lower initial investment. Building all types of conveyors, elevators and unloaders, Baughman can provide a complete, well balanced, smooth operating plant that will give you longer years of service. All Baughman equipment is carefully engineered to insure satisfaction in every installation.

The principle of sectional assemblies used in fabricating Baughman Conveyors and Elevators makes it simple for your own men to assemble, move, lengthen or shorten with great saving in erection costs.

Write for complete information and the name of your nearest Baughman Distributor.



BAUGHMAN MFG. CO., INC.
120 ARCH STREET, JERSEYVILLE, ILLINOIS

Circle No. 43 on Reader Service Card for more information

50

Keep your production in the groove with Thermoid V-Belts, says Thermoid Company. They offer information to show how their belts are designed to transmit power without slippage, and are able to withstand high speeds and absorb shock.

Circle No. 21 on Reader Service Card for more information

Bulletin No. AD-30 A from Lull Manufacturing Company tells the Traveloader story. Storage space is increased and material handling is speeded in these ways: 1) all loads are picked up from the side, 2) one man controls all operations and 3) long materials are handled lengthwise.

Circle No. 104 on Reader Service Card for more information

Maintenance engineers who concentrate on Aerol equipment find that positive pressure sealed Aerol Seal wheels cut maintenance and repair bills to the bone, says Aerol Company, Inc. Complete information on these "lubricated for life" wheels is available.

Circle No. 16 on Reader Service Card for more information

Packed with more than 50 exclusive functional design features and powered by Buda Industrial Type Diesel or gasoline engines, Buda "FT" Series Fork Trucks are described in detail in Bulletin 1570 from The Buda Company.

Circle No. 31 on Reader Service Card for more information

Wherever hand or motor powered industrial vehicles are at work, there is a need for the valuable facts and figures contained in the Monarch Catalog and Handbook on Industrial Tires, made available by The Monarch Rubber Company.

Circle No. 18 on Reader Service Card for more information

There's a Sterling Barrow for every type of hauling job, whether it's dry, bulky materials like sawdust or heavy industrial loads like castings or steel parts. Catalog No. 61 from Sterling Wheelbarrow Company describes this company's complete line.

Circle No. 121 on Reader Service Card for more information

Arguto Catalog No. 210 is your reference book to eliminate screw conveyor bearing trouble, and also contains complete information on Arguto conveyor roll bearings and engineering data. Arguto Oilless Bearing Company offers the catalog.

Circle No. 84 on Reader Service Card for more information

The Baker-Raulang Company offers proof to show how Baker trucks are saving millions of dollars annually in warehouse and storage operations. Benefits include increased storage capacity, faster assembly and delivery of orders, simplified inventory and less damage to material handled.

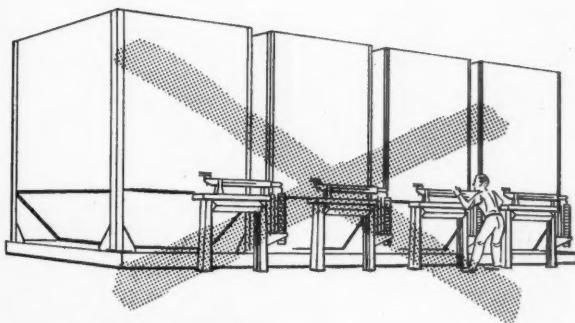
Circle No. 6 on Reader Service Card for more information

Everyone can count on Veeder-Root, says Veeder-Root Incorporated. For example, elevator mileage recorders give accurate figures on vertical miles, so that it can be plainly seen when it's time to replace or overhaul equipment. Complete information is available.

Circle No. 28 on Reader Service Card for more information

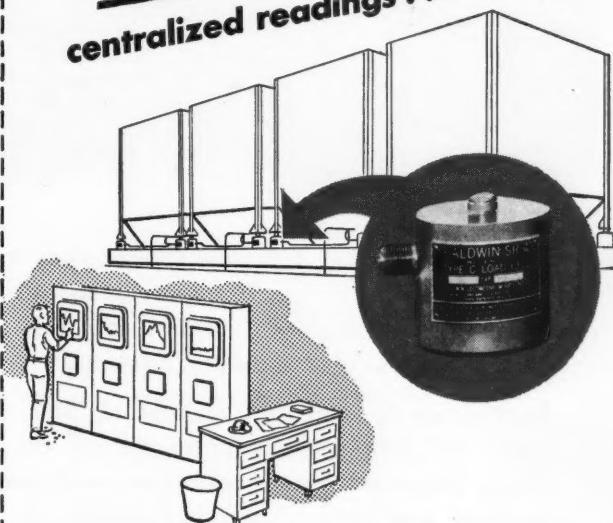
(Turn to page 97)

Weigh
any hopper
anywhere in
your plant
from ONE
location



ELIMINATE
individual scales . . .

MODERNIZE with
centralized readings . . .



With Baldwin SR-4® Load Cells you can completely eliminate the inefficient and troublesome use of the ordinary poise, lever and knife-edge weighing systems. Corrosion and accumulation of foreign material will no longer affect accuracies . . . cleaning problems will be simplified. Instead of taking readings at each hopper . . . you will be able to weigh many hoppers from *one* central control booth.

Only a few inches in height, these Baldwin SR-4® Load Cells are rugged, dependable, completely sealed and can be located under existing hopper supports. The load cell has no appreciable movement and operates recorders, indicators, printers or control instruments through simple electrical circuits.

For complete technical information, write for Bulletins 306, 325, 326 and 328 describing Baldwin Load Cells, pressure cells and torquemeters.



BALDWIN - LIMA - HAMILTON

TESTING HEADQUARTERS

Eddystone Division, Baldwin-Lima-Hamilton Corporation

Philadelphia 42, Pa.

In Canada: Peacock Bros., Ltd., Montreal, Quebec

Circle No. 44 on Reader Service Card for more information



Two hoists connected with an American Mono-Tractor make up the special carrier for finger-tip transfer of heavy load.

Finger-Tip Handling
Speeds Delivery
TO
Graybar
CUSTOMERS

Carrier runs on shielded RailMaster track over loading dock.

The advertisement features a large graphic of a hand holding a small circular control device. Lines connect this device to a larger illustration of a warehouse interior where a monorail system is shown moving a heavy load across a floor. The headline "Finger-Tip Handling Speeds Delivery" is positioned at the top left of the graphic area.

From warehouse stock to delivery truck, heavy loads are quickly transferred by finger-tip control with this American MonoRail Overhead Handling System.

In addition to speeding up loading and unloading time, this simple inexpensive system cut handling labor, improved space utilization, reduced material damage, and bettered working conditions.

It can be done in your plant and an American MonoRail engineer will gladly tell you how.

THE AMERICAN
MONORAIL COMPANY
13129 ATHENS AVENUE • CLEVELAND 7, OHIO

Circle No. 38 on Reader Service Card for more information

52

Highlights Of The Month's News . . .

What is the relationship of the material handling man and the safety man in your plant. Are their duties overlapping—are they the same man—or are they individual men serving in completely different areas?

These are questions we are constantly asking during our various field trips. And it is very difficult to find a clear cut answer because of the variance in different plants.

However, during a recent speech before the Midwest Safety Conference, we found out a very interesting thing. The questions that followed our talk sounded like they were coming from strictly material handling men and not safety men. The questions did not sound like those which should have come from men who were responsible only for keeping accidents (and resulting compensation claims) down. They sounded more like those from men who also were responsible for lowering production costs and increasing handling efficiency.

Evidently then, many men are responsible for safety and handling in their plant.

Let's look at it this way. An important reason for the purchase of handling equipment, other than the reasons of production and handling benefits, is that of added safety.

The safety man can be a very valuable ally of the material handling man. He can add still further weight to recommendations for handling equipment.

And in addition, the protection of personnel, offered by handling equipment over manual handling, is a definite factor in the selection and purchase of such equipment.

Think about this in terms of your own plant. We think it makes sense.

FLOW erred in its June issue in referring to Jere D. Buckley as director of the new Research and Development Division. Actually, he was elected a director of the company at the 84th stockholders meeting.

Circle No. 46 on Reader Service Card →

QUAKER *Production-eered** BELTING



**CUTS "PILE-UPS"
SAVES \$400 A MONTH**

QUAKER CONVEYOR BELTING

TINY LIVE RUBBER FINGERS GRIP CARTONS, STOP SLIPPAGE ON SLOPE OF 42°

High production, high efficiency . . . low cost, low maintenance. "Pile-ups" eliminated . . . dollars saved. That's the amazing success story of this rugged labor-saving Rough-Top Conveyor Belt "Production-eered" by Quaker for Doeskin, Inc., manufacturer of facial tissues.

Tiny rubber fingers grip each carton, hold it to the belt as it climbs this 42° incline — unattended — to the storeroom. By freeing one man per shift, whose job it was to free pile-ups, the company is saving some \$400 a month.

Just one more example of Quaker "Production-eering" at work. Let an experienced Quaker "Production-eer"

— expert in applying industrial rubber products for improved production — help you boost production, cut costs with Quaker "Production-eered" hose, belting, packing and molded rubber products.

***Production-eered** — Every Quaker Industrial Rubber Product is "Production-eered" — engineered to provide maximum life, efficiency and production on each type of installation. All Quaker men — "Production-eers" of industrial rubber products — are ready to recommend the right rubber product for the right job. For timely production tips, get the new free booklet on Production-eered for Industry. Write today.



Get This Book →

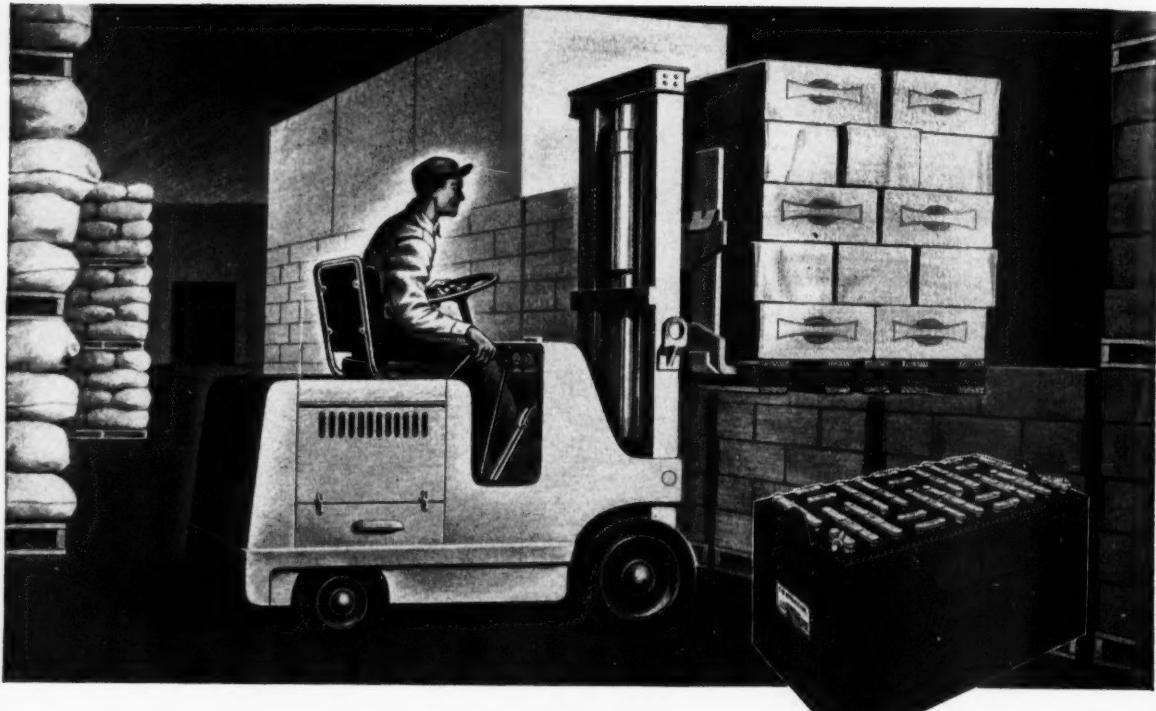


QUAKER RUBBER CORPORATION

DIVISION OF H. K. PORTER COMPANY, INC.

PHILADELPHIA 24, PA. • BRANCHES IN PRINCIPAL CITIES

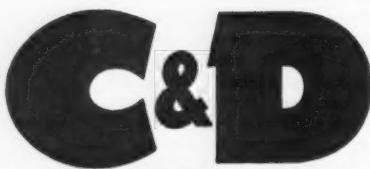
REG. U. S. PAT. OFF.



Your trucks can do **More work each day**
with

C&D Slyver-Clad® batteries

Trade Mark Reg. U. S. Pat. Off.



BATTERIES, INC.

OF CONSHOHOCKEN, PA.
(In the Philadelphia Area)

SALES AND SERVICE

Boston, New York, Philadelphia, Syracuse, Buffalo, Pittsburgh, Washington, Atlanta, Jacksonville, New Orleans, Cleveland, Detroit, Chicago, St. Louis, Minneapolis, Dallas, Denver, San Francisco, Los Angeles, Portland, Seattle

Yes, actual user-results confirm C&D's claim that SLYVER-CLAD batteries deliver up to 20% more power, last as much as 35% longer! That means more work per day—every day! A C&D-powered truck works right up to the end of each shift with power to spare—lifts heavy loads and climbs inclines as easily as it did at the shift's beginning. That's real performance!

The secret of these super batteries is in their longer, heavier plates . . . made possible by C&D's *exclusive* Five-Fold SLYVER-CLAD method of plate insulation and retention. To learn more about the inner workings of these power-packed batteries—and how they can help boost production in *your* plant—send for C&D's SLYVER-CLAD battery folder. It's free; write today!

Circle No. 47 on Reader Service Card for more information

USE THIS CHECKLIST TO RATE YOUR INTER-MACHINE HANDLING

Yes	No		Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Do You Require Continuous Transfer of Parts and Material Between Work Stations?	<input type="checkbox"/>	<input type="checkbox"/>	Are Your Work Stations Arranged In A Progressive Order To Facilitate Flow?
<input type="checkbox"/>	<input type="checkbox"/>	Do You Need Only Intermittent Transfer of Parts and Material Between Work Stations?	<input type="checkbox"/>	<input type="checkbox"/>	Is Your Entire Machining Area Laid Out With A Thought To Other Plant Operations?
<input type="checkbox"/>	<input type="checkbox"/>	Is Work Positioned To Operators So There Is Only Minimum Bending And Reaching?	<input type="checkbox"/>	<input type="checkbox"/>	When Handling Small Parts, Can You Use Containers With Other Handling Equipment?
<input type="checkbox"/>	<input type="checkbox"/>	Do You Need A Break In Inter-station Flow In Case Of A Break-down To A Machine?	<input type="checkbox"/>	<input type="checkbox"/>	Can You Set Up Your Flow So That One Faster Machine Feeds Two Slower Machines?
<input type="checkbox"/>	<input type="checkbox"/>	Do You Require Storage Facilities As A Part Of Your Inter-Work Station Flow?			

Don't Overlook Those Very Important Short Moves Between Work Stations. Here Are 40 Ideas On

Handling Between Machines

It isn't always the inter-department and inter-building moves that should be closely checked in an effort to save money. In fact, most companies are aware of the economies in efficient handling in these areas, but often overlook the money to be saved in more effective short moves, between machines and work stations.

After all, it's easy to see that handling costs run high in moving goods between 10 machines every hour. It's just plain sense that in a years time, money spent for such moves can be very costly.

There is another angle to this problem too. Have you had the experience that some firms have had—that of having their machines down and their operators idle waiting for needed parts or material to arrive from the preceding work station. That can cost a lot of money.

What Can You Do About It

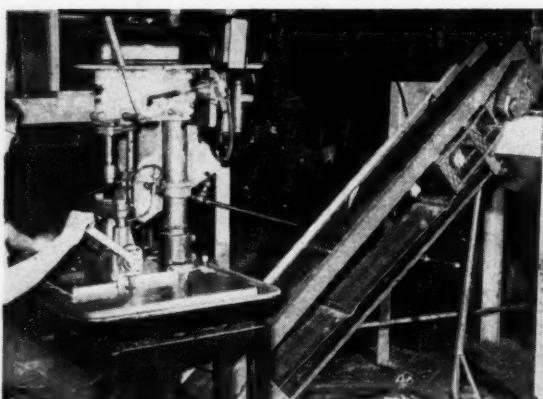
Realizing the problem, a lot of companies are investigating the many types of equipment that are available for these short, inter-machine moves.

There is some equipment that's designed to move the loads continuously. Other types are used when it is advisable to move loads on an intermittent basis. Still others may be called on when "storage route" is desired. Finally, there is a raft of equipment whose purpose is to move very small amounts between work stations—important, even though the volume is small.

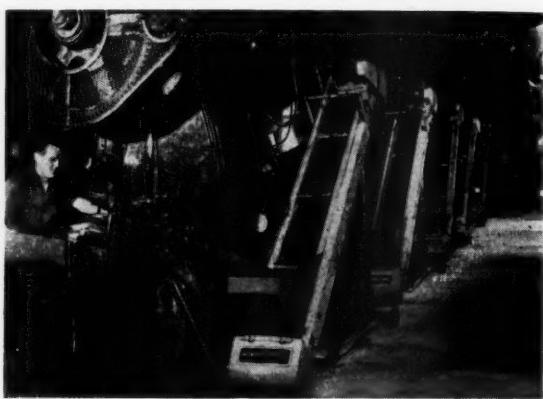
40 Examples Are Pictured On The Following Pages

FLOW WISHES TO THANK the following firms for their help in connection with this report:
E. W. Buschman Co., Chas. Wm. Doepke Mfg. Co., Metzgar Co., Midwest Wire Products Co., Powell Pressed Steel Co., Rapids-Standard Co.

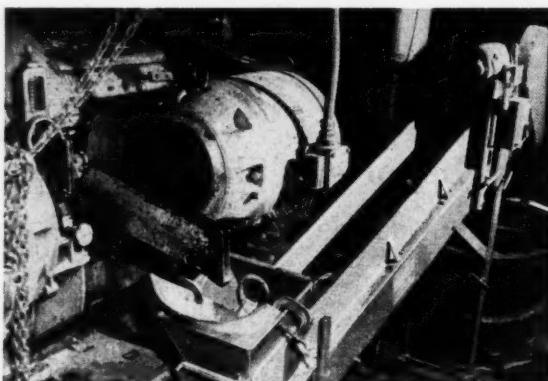
Using Conveyors For Inter-Machine Handling ...



CLEATED-BELT CONVEYOR elevates metal parts which fall from the bed of the press to a sloping-bottom supply bin feeding the next press. Conveyor is portable. User: Utica Drop Forge & Tool Co., Utica, New York.



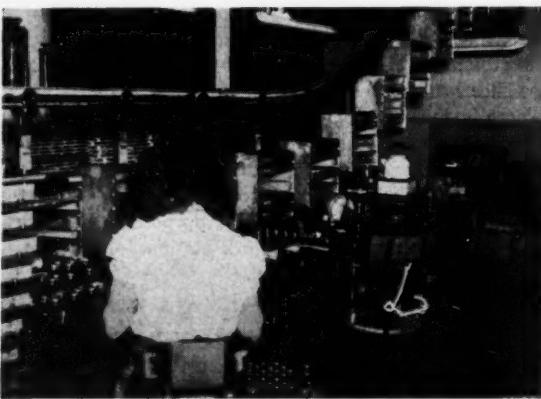
A SERIES OF INCLINED BELTS is arranged to feed from one press to another down a row. All units are portable and may be arranged as desired. Work thus proceeds in straight line flow on continuous basis.



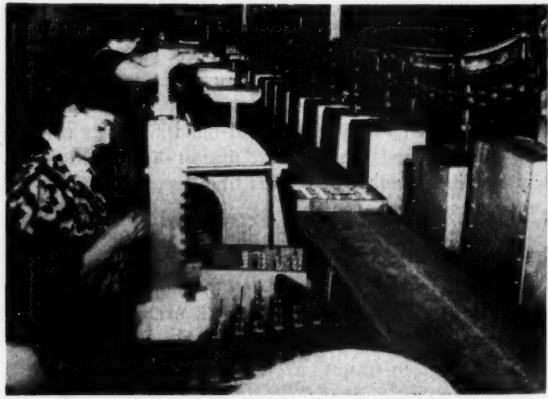
IN VERY CRAMPED QUARTERS, this belt is arranged to transfer piston ring castings from the face grinder into a tote drum. The elevation here does not require cleats. Drums are removed mechanically.



GRAVITY WHEEL CONVEYOR moves bulky stampings from one press to the next at an Eastern steel fabrication plant. As shown here, height of the conveyor may be adjusted to place work at a convenient height.



"STORAGE EN ROUTE" was one of the reasons Stewart-Warner Corp., Chicago, installed these overhead chain conveyors. Small parts, placed in trays, are considered as a float while reaching next station.

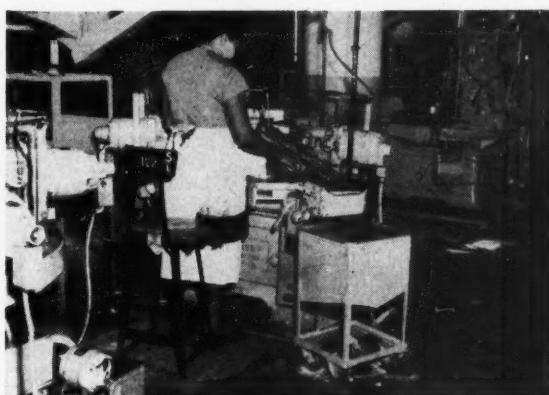


BELT CONVEYORS provide continuous method of transporting all types of loads between machines and work stations. At Stewart-Warner, they provide a swift, continuous media for inter-machine handling.

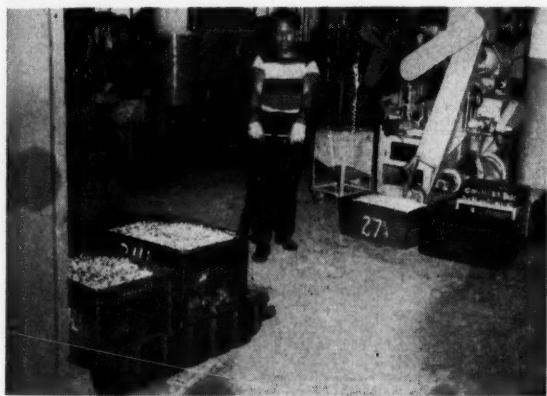
Using Rolling Equipment For Inter-Machine Handling ...



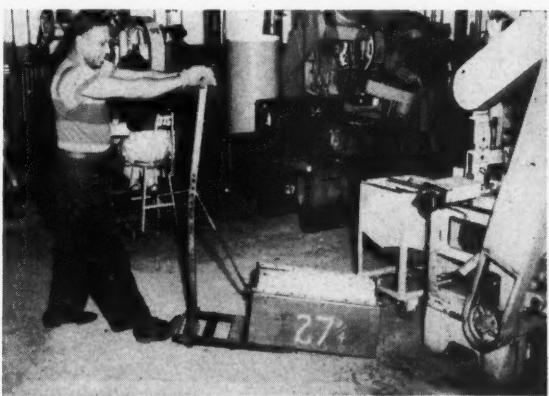
HORSES MOUNTED ON SWIVEL CASTERS carry chrome-tanned hides in the tannery of The Wolverine Shoe and Tanning Corp., Rockford, Michigan. The horse, in addition to transporting, positions load.



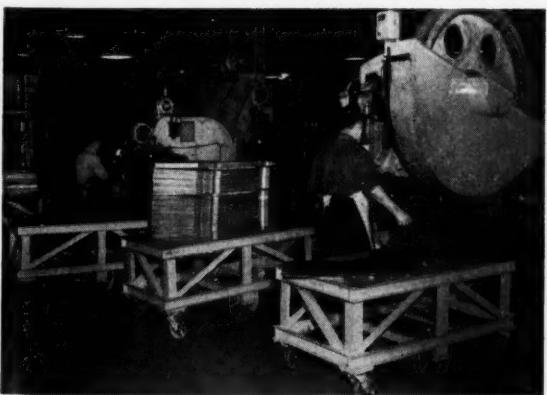
CASTERED SHOP BOX receiving fittings from drilling machine, is easily pushed to next operation at the Stewart-Warner Corp., Chicago. To empty, box is hoisted over hopper, bottom gate is opened.



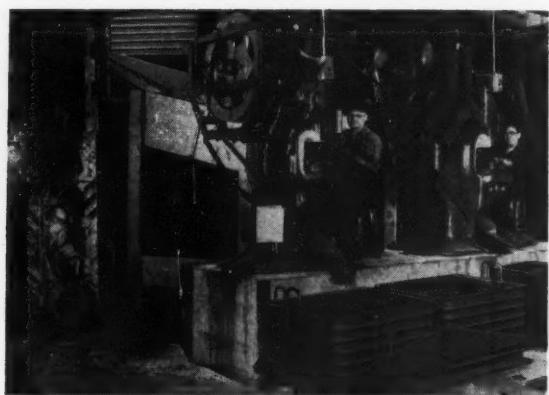
HAND-LIFT TRUCK MOVES SKIDDEN TOTE BOXES from plating to next operation which is assembly. Handles on the sides of the boxes are also designed for overhead handling.



TOTE PAN PULLER is designed for single pans, is highly maneuverable. At Stewart-Warner, operator passes hook through hole in handle of box, draws container onto rollers of the carrying platform.

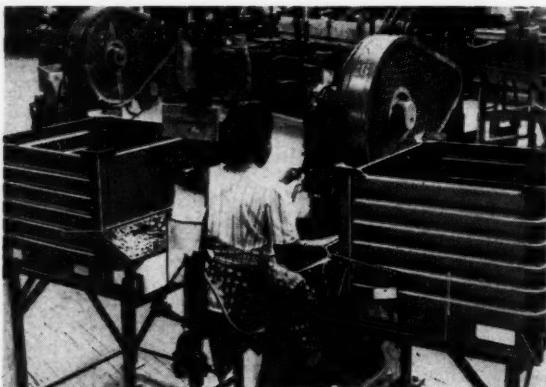


PLATFORM SHOP TRUCKS carry heavy loads of sheet steel from machine to machine during fabrication. Swivel casters permit maneuvering in very tight quarters at Dracco Corp., Cleveland.

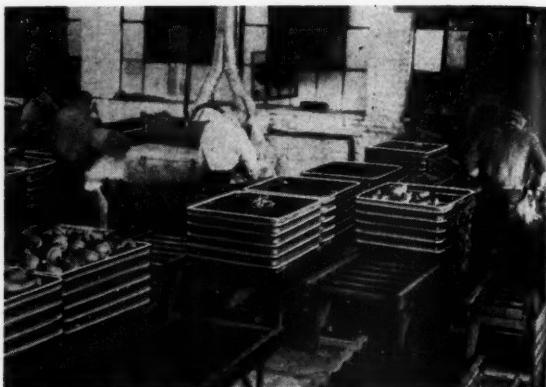


CASTERED SHOP BOXES are spotted to receive parts as they feed from adjacent presses. The carriers can then be easily pushed to the next operation or picked up and carried by a fork truck.

Using Containers To Improve Inter-Machine Handling...



GRAVITY FEED HOPPER BOXES are used in the assembly of two small parts. Finished pieces drop from the back of the press into a third box which, when full is transported to the next work station.



SPECIALLY DESIGNED SKID BOXES have sleeve-type runners for entry of forks of revolving-head fork truck. Boxes are picked off end of roller conveyor, revolved to discharge at next station.



BOTTOM DUMP BOX discharges load of small parts onto an inspection table. This container was filled at previous station, was transported to work stations by an industrial truck.



STEEL TOTE BOXES are tiered alongside a machine to receive parts. Handles of the boxes are positioned to hold loaded container above them. These handles are also designed for overhead handling.

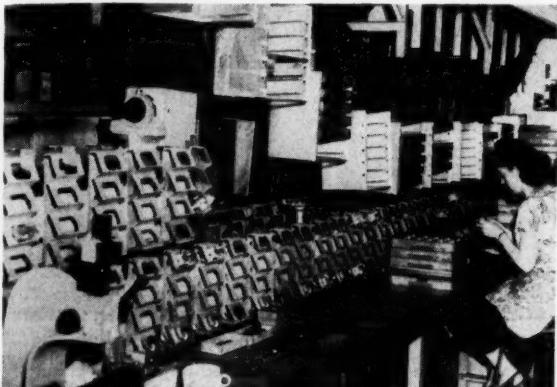


TOTE BOXES ARE PLACED ON FLOOR TRUCK for movement to next operation. When not in use, containers are designed to nest tightly to conserve storage space. As shown, containers will not slip.



THESE WIRE CONTAINERS suspend individual precision parts and protect critical surfaces from nicking and scratching. As shown, they may be stacked on pallets for easy handling, give visual inspection.

Here's More Equipment For Inter-Machine Handling...



THESE BELTS ARE MOUNTED ON THEIR SIDES. have metal work carriers attached to their carrying surface. At Stewart-Warner, small parts are thus transported, are held securely, may be easily placed.



THESE OVERHEAD CHAIN CONVEYORS ARE INVERTED, mounted on stands by Stewart-Warner. Vertical members, extending from moving chain, are equipped with rings, are designed for cylindrical parts.



OVERHEAD HANDLING BETWEEN MACHINES: at the A. O. Smith Corp., automobile frame parts (unfinished side rails) are moved by a bridge crane from a storage bank on the first floor to second-floor presses.



SEMI-LIVE SKIDS receive parts from machines, are stacked in storage by fork trucks which are used for most long moves. For short moves, and in crowded areas, a jack handle raises the "dead" side, easily moves load.



STEEL SKIDS AND SKID BINS receive parts from machines at rear, are spotted in adjacent storage area prior to movement to the next operation. User: Reliance Electric & Engineering Co., Cleveland.



STAMPINGS SLIDE DOWN a short chute for visual inspection, are then hung on overhead conveyor for delivery to next operation. Gravity is thus utilized for inter-machine flow. User: A. O. Smith Corp.

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Handling Between Machines
Case Study No. 1

Here's Uninterrupted Flow From Raw Material To Packaged Product

Good handling between machines has helped Perfection Stove Co., Cleveland, to establish a record of five years of uninterrupted production in the manufacture of wick carriers for kerosene stoves. The department which makes these carriers and inserts wicks in them is a compact one, covering an area of only 7000 sq. ft. The company has been making kerosene stoves for more than 60 years, making this department one of the oldest in its plants. Yet, it is one of the most up to date.

Uninterrupted flow from one operation to the next is accomplished through a well planned handling system. In sheet form, tin is moved on castered trucks. After cups have been drawn, pneumatic, belt, flight, and roller conveyors are the principal means of transportation.



CASTERED TABLE is used by Perfection Stove Co. to move stacks of sheet tin plate into position for slitting and oiling, preparatory to drawing operation. Then material is discharged onto a →



STORAGE BINS located adjacent to machines which will perform the next operation, perforation. Three discharge openings are used to control loading of three bins serving five machines. On each bin a →



FEEDER CHUTE on dial feed press. Note location near bin. Flight conveyor lifts material to overhead belt conveyors. Deflectors guide it into proper bins. After further processing, wicks are conveyed to a bin →



PACKAGING MACHINE which receives wicks immediately after they have been pre-fired. Machine makes boxes from flats, inserts wicks, instructions and advertising flyers automatically, and delivers to →



CASTERED STOCK CARRIER which eliminates the need for manual handling. Material is then moved over to a double-draw press where operator transfers them directly onto press. After blanking and drawing →



PNEUMATIC CONVEYOR which is attached to discharge of double-draw press receives formed cups. Operator only loads press, and completed material drops to conveyor by gravity. Then cups are blown to →



FEEDING RESERVOIR located on machine side of bin provides operator with a constant supply of raw material. Perforating machine is fed through upper chute and finished work is discharged through a →



GRAVITY CHUTE which feeds perforated carriers onto a belt conveyor from where they go into flight conveyor. It raises them to top of storage bin for next operation. Operator places them into a →



DOZEN-SIZE PACKAGING MACHINE which unites twelve packaged wicks, inserting into carton held by operator. Belt conveyor carries through sealer. Twelve cartons are inserted into larger carton and →



ELEVATOR (electric-eye actuated) raises gross-size cartons onto roller conveyor which feeds closing and sealing machine. Then cartons are conveyed to chute and down through floor to shipping dept.

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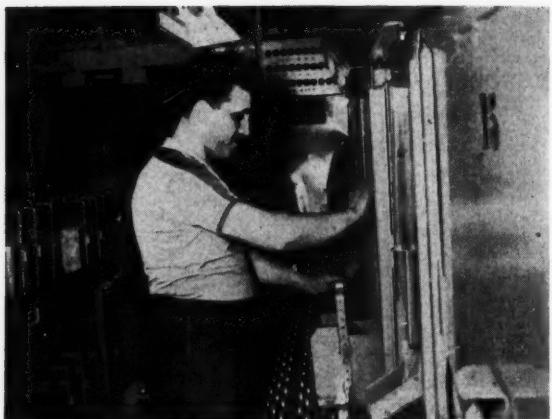
FLOW

Handling Between Machines
Case Study No. 2

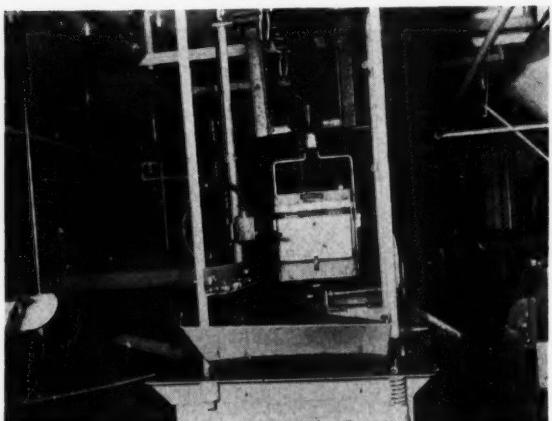
No waiting at these work stations . . .

A touch of a button sends small parts on their way to any one of 23 stations located beneath this closed circuit overhead conveyor system . . .

Here are the details on how Stewart-Warner Corp. solved this tough problem . . .



1 BUCKETS ARE LOADED with fittings from main bins prior to dispatching to a work station. Note the control panel in background which tells of station needing parts, has buttons to direct feeding.

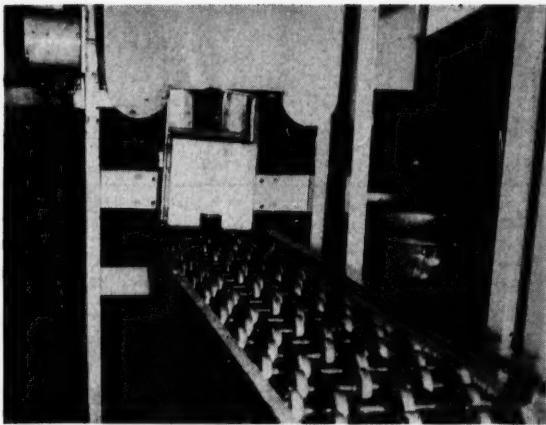


4 BUCKET MOVES ALONG OVERHEAD CONVEYOR over the various work stations. At each station, a hopper receives the fittings, feeds them by chute to the operator. 23 stations make up the system.

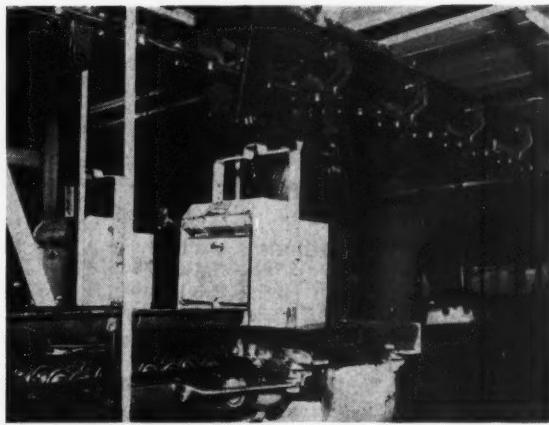
Automatic Dispatch

In the entire picture of handling between machines, one of the most baffling problems is the feeding of large volumes of small parts on a regular cycle to a battery of work stations. In addition to the volume and time cycle, another complicating factor is the problem of working in congested quarters that so often go hand in hand with a group of machines or work stations performing the same or similar operations.

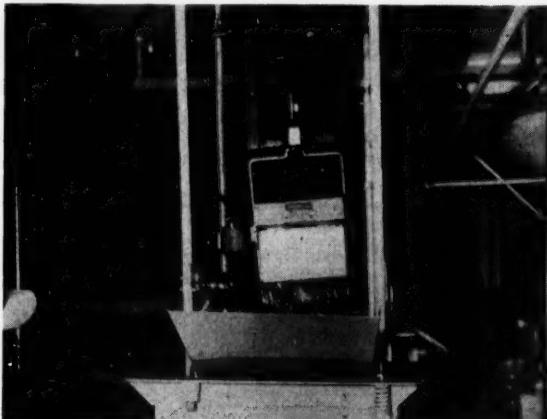
One plant that has licked these problems is the Stewart-Warner Corp., in Chicago. It has installed an overhead conveyor system, which is entirely automatic, that transports volumes of small parts (fittings) to any one of 23 work stations concentrated in a small area.



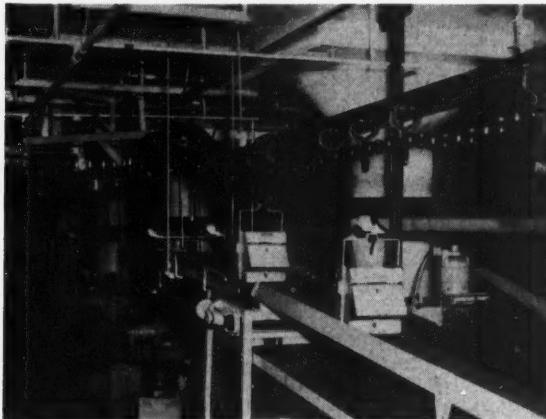
2 LOADED BUCKET moves down gravity line from main bin to vertical conveyor which will elevate it to an overhead chain conveyor. The system is now in operation to send bucket to specific station.



3 BUCKET IS PICKED UP by the conveyor hook while another moves on a belt, from the vertical lift to the pick-up station. Note that the overhead conveyor work carrier is angled to retain the load.



5 BUCKET IS AUTOMATICALLY TRIPPED, discharging the load into the hopper. This will raise the contents in the hopper above the level where it signals "parts needed" to the control board.



6 AT THE END OF THE SYSTEM, the buckets descend from the overhead conveyor onto a belt which carries the containers to a gravity wheel line which will return them to the start of the system.

atch

System For Small Parts

Call For Parts— Push a Button

Here's how the system works. Fittings are delivered to the department and placed in a large hopper, which has a door at one side. Buckets which are placed under this door to receive a load, are then placed on a vertical chain belt conveyor and are raised under the ceiling where they are picked off by hooks of an overhead chain conveyor.

Above each work station is a hopper which receives the fittings and feeds them to a chute which delivers to the operator. When stock in any hopper reaches a certain level, a light goes on on a master control board located

at the feed end of the conveyor system. An operator places a loaded bucket into play and presses a button on the board corresponding to the station needing parts.

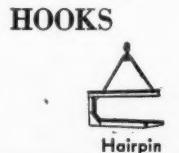
The load is carried by the overhead conveyor to the desired station where a tripper on top of the hopper contacts the drop-bottom of the bucket discharging the load. The empty bucket then continues around the circuit and returns to the loading point.

Everything, except the actual filling of the buckets, is automatic. While it takes between 13 and 15 minutes for a bucket to complete the cycle, any number of buckets can be on the system at any given time. Take a look at the photos above to see exactly how the system operates.

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**Three Basic
Types of
Attachments —**



**Adapt Your
Overhead Equipment
For Handling —
And Many More.**

Bagged Material
Barrels
Bars
Boxes
Drums

Irregular Shapes
Rods
Scrap
Sheet
Wheels

Boxes
Coiled Stock
Irregular Shapes
Molten Metal
Racks

Rods
Rolls
Scrap
Sheets
Structural Shapes

BARS

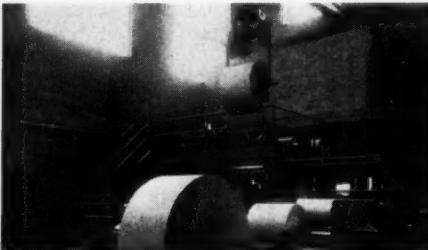
•
**STRUCTURAL
SHAPES**
•
INGOTS



BAR RACK TONGS are controlled from suspended panel. Tongs, suspended from crane hook, are lowered to pick up loaded rack. Shown here in open position.

TORQUE HOOKS handle structural steel shapes. Inexpensive and simple to use, they are equally successful with most types of overhead equipment.

ROLLS
•
BALES



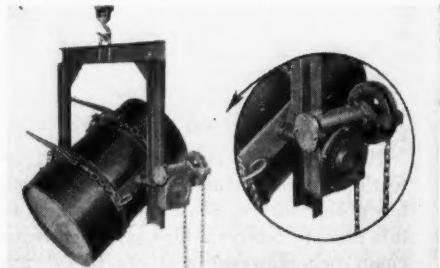
GRAPPLE for paper rolls is motor operated. Hooks and lugs are built into parallel-opening arms of the grapple to permit accurate lowering into machines.

ROLL GRAB for use with monorail system. A latch lever handle is used to open and close the grab. Operation is through pendant pushbutton station.

DRUMS



DRUM GRAB has powerful clamping action that permits it to lift drum by the top. Since action is purely mechanical, requiring no motivating power, any type overhead equipment can be used.



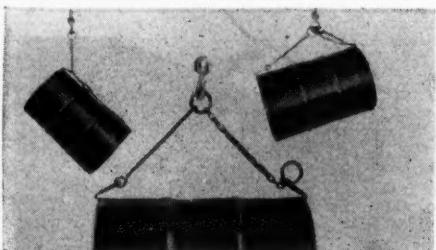
ROTATING DRUM GRAB is easily operated manually to tilt drum. Trunnions, on which drum is mounted are sensitively rotated by worm gear and worm mechanism operated by hand chain.



INGOT TONGS suspended from bottom block of bridge crane lift and transport an upright ingot. Tongs shown here have 12" - 26" grab limit range; capacity of 15,000 lb.



BALE GRABS for pulp, cotton, etc., incorporate auger-type screws that worm their way down into tops of bales. To deposit bales, direction of rotation of screws is reversed.



HOOK TYPE DRUM GRAB can be used to lift and transport drums in several positions. It owes much of its versatility to the adjustable chain which makes up one leg of the sling.

GRABS



Automatic



Manual



Semi-Automatic

Bales
Barrels
Bars
Bulk Material
Coils

Glass
Ingots
Irregular Shapes
Plate
Rod

Rolls
Sheet
Small Parts
Structural Shapes
Wire

Specialized attachments can make Overhead Handling Equipment more versatile

The versatility and flexibility of almost any material handling system can be increased through the addition of grips, grabs, tongs and grapples of the proper design. To be sure that you are getting the maximum service from overhead equipment, it will pay you to give serious thought to attachments available. Space limitations restrict the items which can be covered in this FLOW survey, therefore, only a brief cross-section covering most of the general types in use is given here.

For nearly any requirement, there are generally a number of types of attachments which might possibly serve. One of these usually will do the job better than all others, however, resulting in time savings, and making the handling job easier and safer.

Generally, there are three broad classifications under which most overhead attachments can be grouped; automatic, semi-automatic, and manual. Automatic devices are designed to pick up, transport, and deposit material under the control of a single operator. In places where material is piled to considerable height, this type equipment has a definite advantage because it eliminates the necessity of having workmen in hazardous positions below. Semi-automatic attachments are below-the-hook devices which must be engaged manually but which disengage automatically when material is deposited. To use this type, two men are needed, an operator and a hooker. Manual attachments are below-the-hook devices which must be hooked and unhooked manually. They usually employ either the friction or cradling principle for lifting loads, and can result in substantial money-savings where volume handled is small.

SPECIALIZED ATTACHMENTS . . .

substantial money-savings where volume handled is small.
Attachments for Irregular Shaped Objects

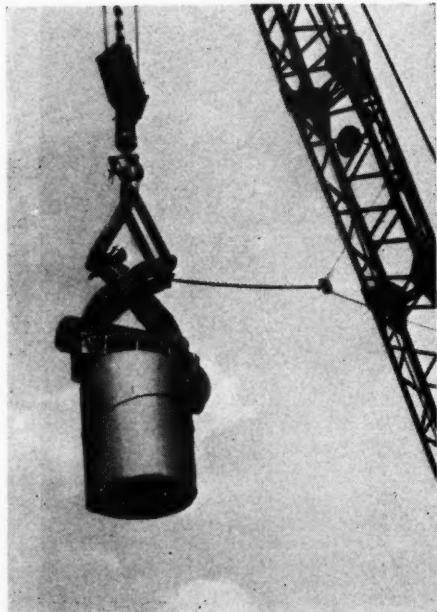
The importance of grabs (also called grapples or tongs) as employed with different types of overhead equipment is becoming more and more recognized. Interesting advances have been made in these devices in recent years. For handling scrap metal and irregular objects, grapples have been designed with independent tine action. Four tines close uniformly until one encounters resistance in the action of penetrating and gathering material. That tine remains stationary while the rest of the tines continue to close. In this way, each tine in turn penetrates the material being picked up and anchors itself. At the final point, ready for lifting, the closing power of the grapple is equally divided among the four tines.

Attachments for Logs, Ties and Timber

Log and pulpwood grapples are often used in connection with locomotive cranes for handling pulpwood logs into and out of storage. One that is designed for economical handling, is fitted with two spades made of well reinforced bent angles and covered with heavy steel plates. It can be used on any two-rope hoisting mechanism, and is designed to be put on or taken off in a few minutes.

The great amount of ingenuity that has gone into designing certain types of handling grapples is illustrated in one for handling railroad ties into and out of railroad

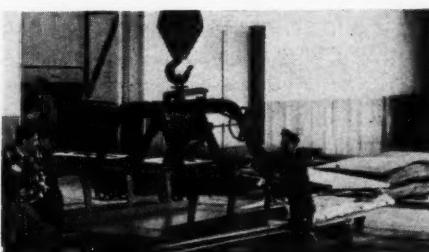
Turn to page 84



COIL TONGS make easy the task of handling ten-ton coils of strip steel at Rouge Plant of Ford Motor Co. Trick here is to move these massive loads fast but without damaging edges of coil.

SHEETS

PLATES



SHEET GRAB handles many sheets at one time onto tractor-trailer train. Grabs are often used with hoists on monorail, with bridge and mobile cranes.

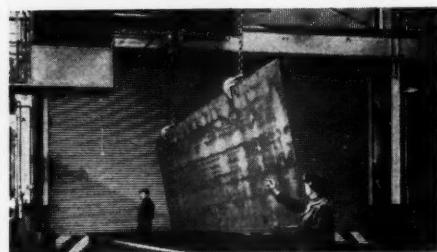
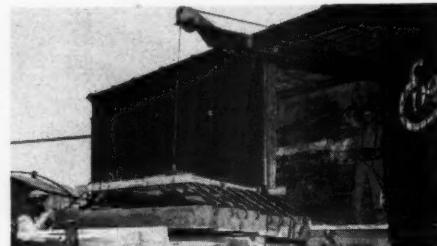


PLATE CLAMP grips heavy plate to unload from gondola. Clamps are available in different sizes to pick up and carry plates with varying thicknesses.

LOGS • RAILROAD TIES

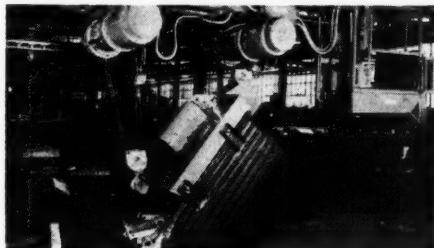


DOUBLE SPADE GRAPPLE is designed especially for handling logs, cordwood. Grapple can be put on or taken off hoisting mechanism in short time.



RAILROAD TIE GRAPPLE for moving railroad ties into and out of box cars. Reciprocating arm is mounted to tripod fixture on opposite side of track.

METAL PARTS

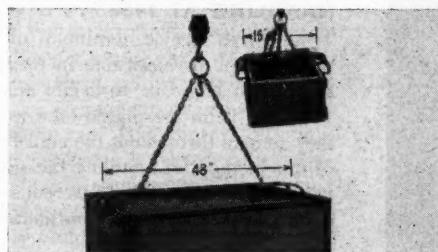


TILTING BOX GRAB is operated from independent hoisting units. Grab engages in upward extending lugs of box. For dumping, only one hoist is operated.

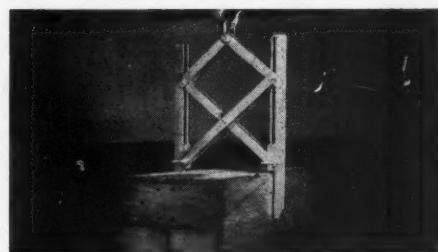


WIRE BUGGY GRAB for transporting buggies in a wire mill. Opening and closing of arms is by small motor controlled from floor or operator's cab.

BOXES



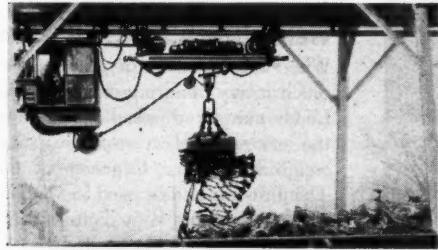
UTILITY HOOKS used with closed sling for engaging and lifting heavy skid boxes. This arrangement can also be used successfully on ordinary type boxes.



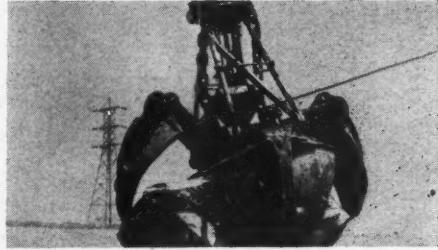
BOX HANDLING GRAB incorporates engaging side members drawn together or spread apart by parallelogrammic linkage. Spurs set without gripping.

SCRAP

• ODD SHAPES



MAGNET for handling scrap. Here, it is being used with monorail tractor. Another successful method suspends magnet from mobile crane.

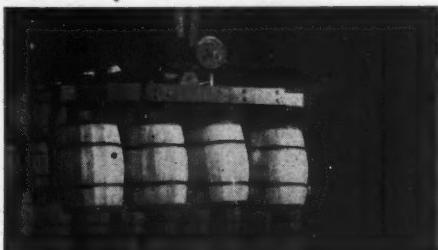


STONE GRAPPLE features independent tine action to allow for irregular shapes. Can be used for placing breakwater stone, placer mining, quarrying.

BARRELS



BARREL GRAB is of the semi-automatic type. Hooked manually and unhooked automatically when weight is relieved. Economical where volume is small.



BARREL GRAPPLE handles and stores four barrels at one time, keeping them in vertical position during entire moving period. Capacity of grapple is three tons.

**COST CUTTING
BY-PRODUCTS . . .**



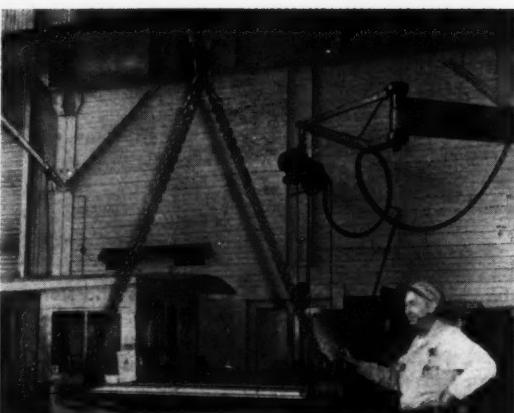
HANDLING AT 1450° . . .

Trouble-free service, minimum of handling and close time control are desirable in operations like this one at Gorham Mfg. Co. In bright annealing silverware at 1450° F., items are placed on a woven wire belt where they remain throughout the entire process. As a result of this method, of handling the silverware, quality has been improved, and rejects reduced. In addition, fuel costs have been reduced considerably.



WEIGHING DURING INVENTORY . . .

When taking inventory, countless hours of time and much heavy handling can be saved with a crane scale. Loads can be weighed right on the spot eliminating the necessity of transporting them to some distant weighing station. Capacity of this scale is 5000 lb. The unit can also be used in shipping operations, weighing material as it is being transported to the dock without the necessity of stopping, setting down, weighing and picking up again.



UNIQUE DEVICE FOR SAFE LIFTING . . .

At the Torrance (California) plant of the National Supply Co., this anti-fumbling device was developed to insure against dropping of precision shafts used in oil field machinery. A short piece of pipe, capped on one end and with welded hook and handle, is placed over each end of a shaft prior to lifting. The open end of the pipe is flared to make positioning easier. The device has resulted in time savings and greatly reduced damage.



ELIMINATE DEAD-HEADING . . .

At the Consolidated Vultee Aircraft Corp. plant in Fort Worth, two-radios are used to help speed up the production of bombers. Here, a lift truck operator is shown asking for a work assignment, immediately after completion of a previous one. Preliminary tests indicate that \$30,000 per year may be saved through increased efficiency and reduced mileage. Dispatching is done from a locally-controlled base station near the center of the assembly building.



HANDLING FOR COMMON CARRIERS . . .

Fork trucks with 2,000 lb. capacities and central checking facilities have helped West Coast Fast Freight, Inc. increase efficiency immeasurably and have reduced the possibility of errors. The motor freight operator has developed methods of handling pipe, cylinders, and other odd shapes on the fork trucks as well as conventional boxes and bags. Handling time has been reduced on all items the company ships, and what was formerly one of the most expensive operations now is inexpensive and easy. Substantial savings have accrued.

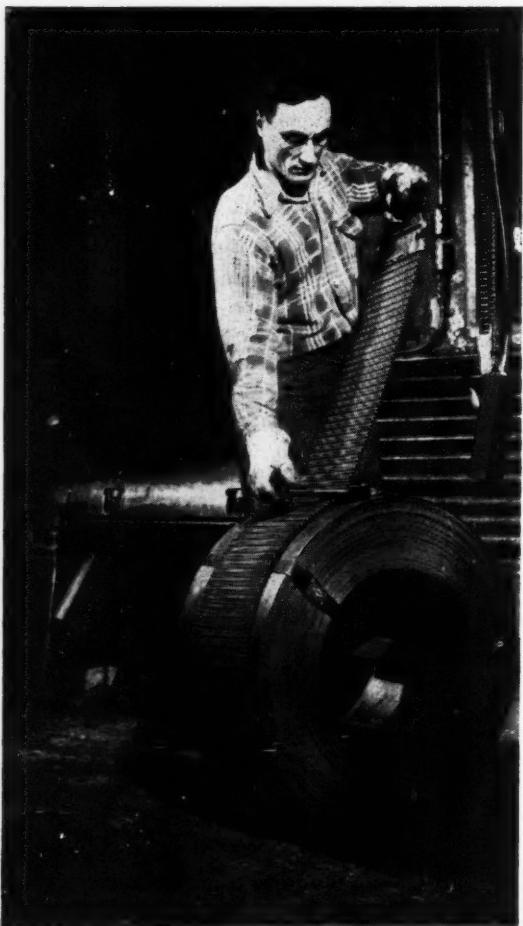


DUMPING WASTE CARTS . . .

At Burroughs Adding Machine Co., this inexpensive but effective method of loading waste material into packer trucks has been devised. Sleeves on either side of the containers are designed to permit lifting by arms on superstructure shown. The air cylinder acts on a cable which passes over a pulley and is attached so as to suspend the cart when cylinder stroke is down. On return stroke, the cart is returned to the floor.



Wire Mesh Belts Handle Heavy Coils



(Above) WIRE MESH SLINGS used by Waldes Kohinoor, Inc., make it easy for one operator to prepare a coil of steel for lifting onto a mandrel for slitting or eyelitting. Similar method is used in handling sheets stacked on wooden skids.

(Right) ELECTRIC HOIST lifts coil and permits it to be moved easily over to the mandrel. It is possible to slip a coil on a mandrel whose diameter is within thousandths of the inside diameter of the coil.

Safe, easy and quick handling of heavy steel coils and sheets has been achieved through the use of wire mesh slings at Waldes Kohinoor, Inc., Long Island. In the course of a year's operations, thousands of tons of coiled steel are handled by the fastening device manufacturer. On several occasions in the past, coils were dropped during handling. Operators were endangered, and expensive damage occurred.

With the method now in use, a single operator lifts and positions material quickly, easily and safely. The accompanying pictures show a coil being placed over a mandrel, preparatory to a slitting or eyelitting operation. The sling is fitted around the load. Without removing the sling, the operator is able to slide the coil over the mandrel. Waldes Kohinoor reports that with this method, it is possible to slip a coil on a mandrel whose diameter is within thousandths of the inside diameter of the coil itself.

For handling sheets stacked on wooden skids, an operator wraps a sling around the entire load and moves it, skid and all, through the various processes.



What's New In Warehousing?

Answer the 16 questions below in terms of your own warehousing operations. Then turn the page for three reports on some new ideas on warehousing which may give you just the answers you're looking for.

If You Can Answer
Yes To Most of
These Questions
You Have a Superior
Warehouse. If you
Can't, Take a Look
At The Following
Pages For Some Ideas.

- 1 Are the responsibilities in your warehouse clearly defined; are all operations properly supervised?
- 2 Are fast moving goods and hard-to-handle items stored nearest to the shipping department?
- 3 Are your orders assembled efficiently; have you eliminated all unnecessary backtracking?
- 4 Does filling stock, stock selection, etc., proceed on a straight line basis or nearly so?
- 5 Are your order picking sheets and stock locations in the same sequence to reduce "wasted miles"?
- 6 Do you use modern handling equipment to reduce "over-handling" in your warehouse?
- 7 Is your storage area protected in case of fire; is your sprinkler system up-to-date?
- 8 Do you have adequate control over order filling, packing, etc., if these are in scattered areas?
- 9 Is your storage area flexible; can changes be made in layout (because of stock changes) when necessary?
- 10 Are your aisles, bays, bins, etc., clearly marked for easy location of goods, fast order picking?
- 11 Is your storage designed for easy inventory; would perpetual inventory save you time, money?
- 12 Are your packing and checking departments adjacent to shipping to facilitate straight-line flow?
- 13 If yours is a multi-story building, do you have adequate inter-floor handling equipment?
- 14 Are goods that are often ordered together, stored in adjacent areas to eliminate extra handling?
- 15 Are you using all available space for live storage; are you taking advantage of vertical space?
- 16 Can you reduce your aisle widths to increase available storage area; will angle stacking help you?

On The Following Six Pages Are Some Recent Developments In Warehousing



What's New In
Warehousing
Case Study No. 1

REPORTING on the progress of order-filling operations in a department. Arrow indicates group of orders currently being filled. Corresponding letter lights up on master control board where by

Spot Control of Widespread Order

Here's how one of the nation's largest distributors has centralized control of order filling operations from 25 widespread storage areas. About 100,000 different items are carried in stock.

By C. C. Bassett, Plant Engineer
Belknap Hardware & Mfg. Co.
Louisville

When a great number of different items are required to meet at a given time (assembly, order picking, etc.), lack of close control can result in expensive operation, loss of material, and wasted time in getting out shipments. A system recently installed at Belknap Hardware Co., Louisville, is helping the distributor, one of the nation's largest, to achieve orderly, rapid selection from about 100,000 different items kept in stock.

The merchandise, including everything from small hardware items to all types of furniture, is warehoused in 25 storage areas in six adjoining buildings. Formerly, it was necessary for checkers to walk through the entire 25 areas for checking purposes. Often, by the time a checker had completed his rounds, the situation he observed in the first department had changed. Obviously, it was difficult to shift extra personnel to departments behind schedule and needing help. It was hard to overcome the lag in getting information to a central point. As a result, orders of goods were likely to reach the shipping department haphazardly.

With the system now in use, control of the entire operation is from an electrical board in the warehouse superintendent's office. Each department is represented by a row of letters which light up to show progress in the

course of a day's operations. Supervisory personnel need only glance at a particular row, noting the letter which is lit, to know the status of work in any department.

Here's How It Works

At the beginning of each day, orders for material are assigned to various departments in groups of 50. Each group of orders is then assigned a letter on the board. Thus, letter A in a certain row designates the first 50 orders for the day in a particular department, letter B the second 50 orders, letter C the third 50, etc.

As orders are filled by each department, the central control point is notified. This is accomplished by adjusting a large arrow on a circular board. (One of these boards is installed in each department.) The arrow, when set to point toward a certain letter, makes electrical contact, lighting up a corresponding letter on the master board in the supervisor's office.

Control

The system not only provides an indication of conditions throughout the widespread organization, but also makes it easy to control order filling speed of individual areas to insure an even, regular flow into shipping areas.

As a department fills orders, it sends them to a central packing and checking department. The previously men-

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Filling Operations

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CHECKING to see which letters are lighted, supervisory personnel can determine at a glance which departments are ahead of or behind schedule. Relief for departments behind schedule is accomplished by

tioned circular panel in the department contains lights opposite each letter. They indicate the letter of the group of orders currently being checked by the packing department. In an ideal situation, every department in the plant would be filling orders two letters ahead of the ones being worked on in the packing department.

When a department falls behind schedule and is unable to catch up, the supervisor's office assigns help from a crew of floating personnel. Names of the floating crew are posted on a panel adjacent to the master control board. As with the larger board, each row designates a department. When a man is shifted, his name is pulled from one row and placed in another appropriate one.

Here's how an ideal situation would appear: Let us Turn to page 96



ASSIGNING "floating personnel" to areas needing help. A record of the whereabouts of each member of the floating crew is kept on this board. The central location of all information and control facilities has resulted in a saving in time, and keeps complicated operations straight.

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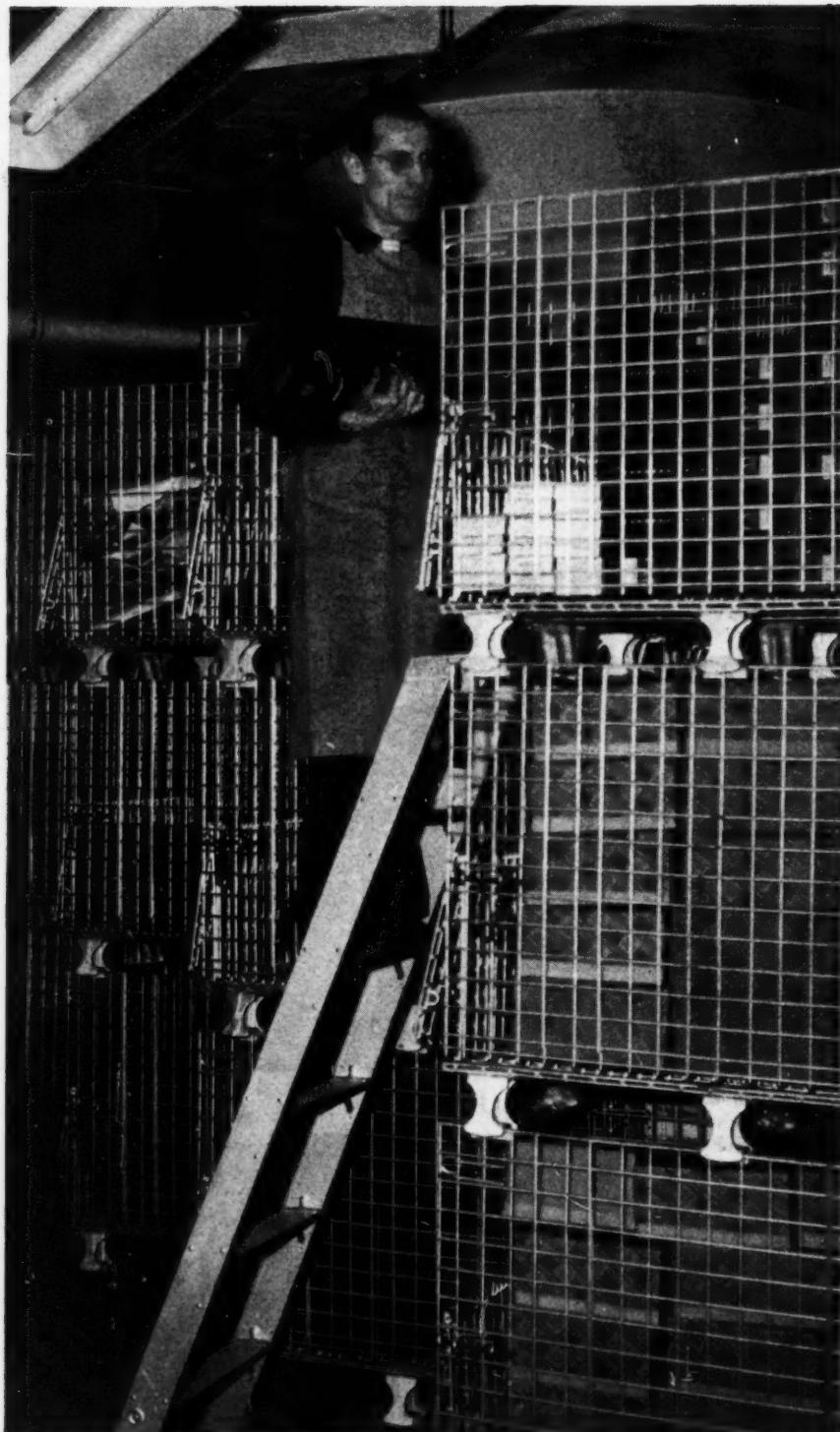
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What's New In
Warehousing
Case Study No. 2



EASY STOCK SELECTION is one of the outstanding features of the wire containers used in the Oldsmobile division parts warehouse at Lansing, Michigan. Containers are piled in tiers three high at 45° angles to the aisle. Open type construction permits stock handlers to determine the type and the amount of each item on hand. Fold-down sections make all stock accessible.

Good Warehousing
Is Simplified In
These Five Ways
At Oldsmobile

1. Light weight containers provide strength and safety.

2. Considerable space is saved by the 45° direction of placing stacked containers.

3. Hinged doors provide easy access to stacked containers.

4. Wire construction permits quick check of contents.

5. Containers are collapsible to save space in storing emptys.

New method for STORING SMALL PARTS

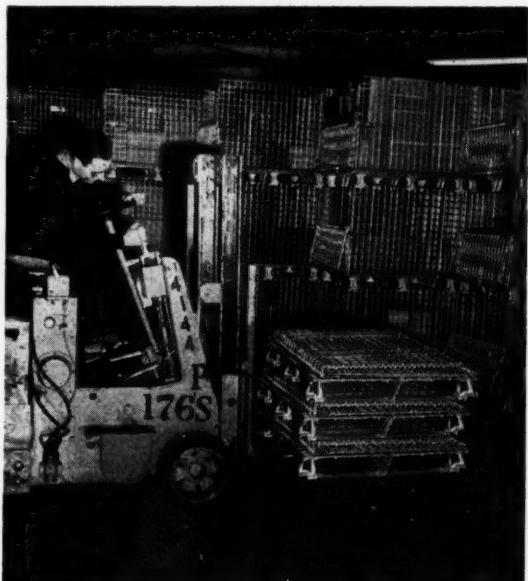
Warehousing of small parts in large quantities presents special problems in space utilization and in achieving efficient handling. Through the use of collapsible wire containers, the Oldsmobile division of General Motors at Lansing, Michigan has come up with several of the right answers to these problems.

The curtailment in automobile production has resulted in a pronounced increase in the demand for replacement parts for older model cars. This has made it necessary that larger spare parts inventories be carried. As this situation grew, Oldsmobile looked for ways to conserve space, and to expedite handling.

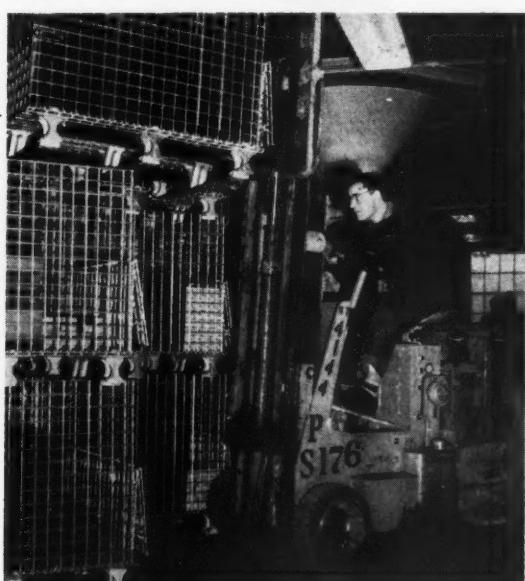
The first method developed made use of wooden boxes of uniform sizes, stacked three deep. To permit selection from the stacked boxes, one-half of the area in the front of each box was cut out. For stock selection it was easy to reach into the boxes.

While this arrangement proved a great improvement over previous methods, it was also decided to investigate other types of containers. Those selected, and in use today are made of heavy-gauge wire. They are mounted on feet for easy movement, either empty or loaded, on fork trucks, and are collapsible so that minimum space is required for storage if empty. Fronts of the new containers are hinged through the center, permitting movement of material from receiving areas to warehouse in closed position. After the container has been placed in position, the "window" is opened and material is easily accessible for quick stock selection.

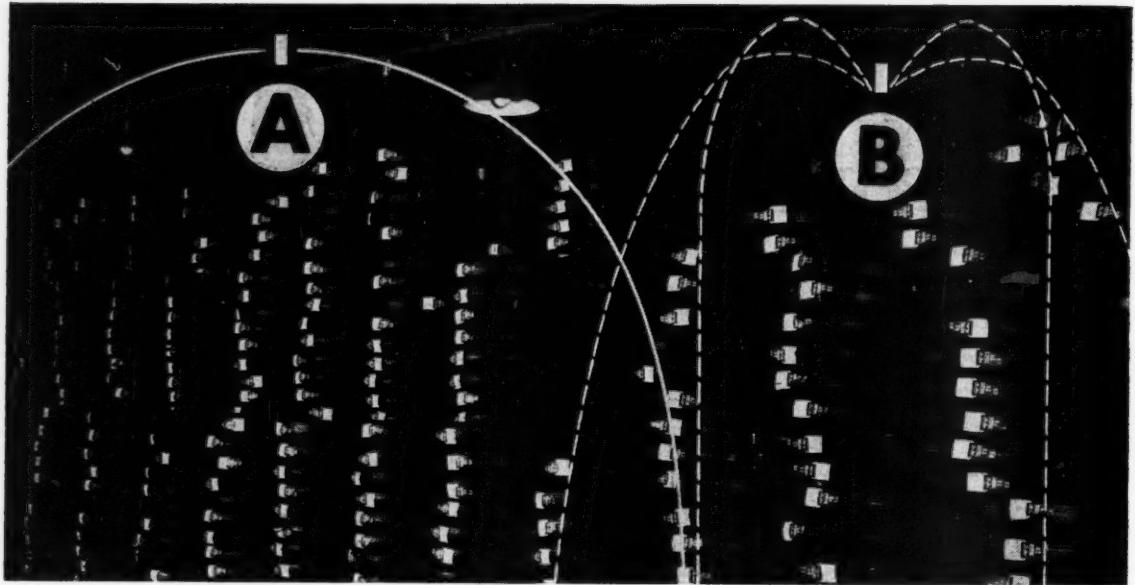
As with the wooden predecessors, the wire containers are stacked three deep and are moved about on standard fork trucks. To cut down aisle requirements, stacks are set at a 45° angle from the aisle. Space requirements for turning a truck are cut by this arrangement. Time for spotting has also been reduced considerably.



COMPACT STORAGE OF EMPTY'S is provided for by the knock-down feature of the containers. Legs on the containers permit using standard fork trucks for moving them about the warehouse. Handling is also aided by their comparatively light weight.



SPACE SAVINGS can be considerable when containers are stacked three-high as shown here. Top half of fronts of the containers open downward to make stock selection simple and quick. They are moved directly from receiving to storage while loaded.



EFFICIENT SPRAY PATTERN of the new pendent nozzles and upright sprinkler (A) gives uniform distribution, filling most of the space below the ceiling and cooling it without wetting. Ordinary sprinkler pattern (B) covers a much smaller area, and 60 percent of the water hits the ceiling and then falls in large drops which have less cooling capacity.

What's New In
Warehousing
Case Study No. 3

New Fire Sprinkler

Recent trends in storage practices have been toward higher and higher stacking in existing storage areas—taking advantage of practically every available inch of space through improved methods and equipment—and thereby increasing fire hazards, since the closer to the ceiling materials are stacked, the harder the job of coping with fire in them.

At first, fire protection men tried to meet the added hazard of high piling by planning new systems with better water supplies, increased size pipe and more closely spaced sprinklers. But standard automatic sprinklers can't cope with some types of fires—such as those in open flammable-liquid tanks and in high-piled combustible storage areas.

Furthermore, since new sprinkler systems installed each year are only 2 percent of those in service, fire researchers felt that the quickest results could be obtained by improving sprinkler heads for use in existing systems.

Factory Mutual Insurance Companies took on the project. They got to work on this particular problem several years ago by first constructing a much larger fire-testing

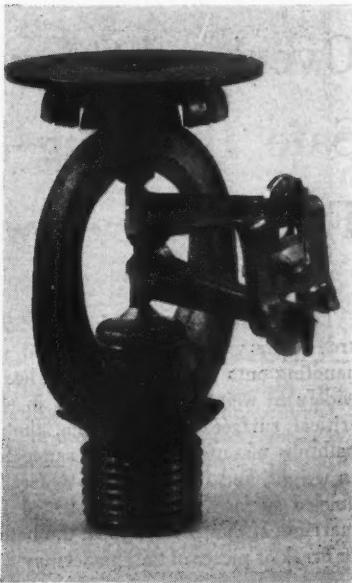
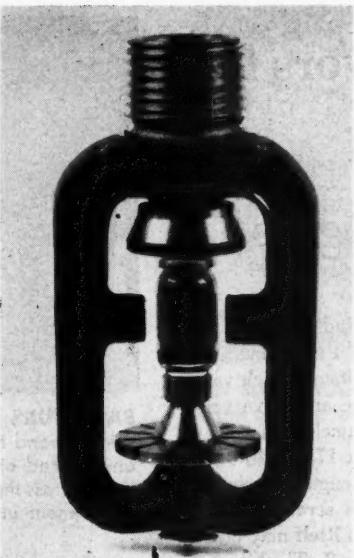
building and then conducting tests and research on the protection of storage piles with sprinkler systems.

More specifically, they undertook to find out whether it was practical to protect tire storage piles with ordinary upright sprinkler heads on the usual piping and spacing set-up.

Test Results

Tests conducted made comparisons between different types of sprinkler heads on piles of tires up to 12 feet high. Most tests were run under a 15-foot, non-combustible ceiling, but others were made with headroom of 33 feet. Smooth board and plank ceilings were included, too, to check protection of the building as well as its contents.

Results showed that the automatic pendent spray nozzle (which discharges water directly on the ceiling) gave considerably improved results over sprinklers. Even without hitting the ceiling directly, their sprays did a better job of protecting it than ordinary upright sprinkler heads.



EFFICIENT SPRAY NOZZLES of the pendant, wide-angle type (shown above left and center) have secured Factory Mutual Laboratories approval as a result of recent tests and research. They give increased protection with the same discharge rate as ordinary sprinkler heads. An improved upright sprinkler (above right) is now being developed.

filling
much
acity.

Heads Permit Higher Stacking

New wide-angle pendent automatic spray nozzles, submitted for testing by several manufacturers, showed up very well. They gave improved protection, although their discharge rate is the same as an ordinary sprinkler head.

Still in the developing stage is an improved upright sprinkler, which Factory Mutual put through its paces along with the others. They rated it as somewhere between the ordinary sprinkler and the wide-angle spray nozzles. Comparative tests showed at least equal protection from the new sprinkler when used on a 12 x 12 foot spacing to that given by ordinary sprinklers spaced 10 x 10 feet at the same discharge rate.

Also, the new sprinkler heads can be used on existing piping systems without change, and there is less danger of their being clogged by rust or scale deposits. They are suited to both wet and dry systems, pendent spray nozzles to wet systems only.

Sprinkler Operation

Sprinklers work in three ways: 1) They extinguish

or control a fire by putting water on it; 2) They extinguish ceiling fires and cool the atmosphere near the ceiling to protect the structure from severe heat; 3) They cool the air and limit the spread of heated air, so that the fewest number of automatic heads in the area are operated.

The new spray nozzles do these jobs better, because they have a more effective and uniform distribution of water. They deliver enough water to handle the fire, without thin spots in the pattern. Better protection for wood ceilings is afforded, according to Factory Mutual tests, regardless of whether any water actually strikes the ceiling.

Present standards for ordinary upright sprinklers require that 60 percent of the water hit the ceiling, and 90 percent of the water must fall within an area of 10 square feet on the floor. Their effectiveness falls down because the volume of water that is directed at the ceiling comes down from it in drops too large to do an effective cooling job. The new units, with their more uniform distribution, give better cooling, better coverage of fire below.

(Turn to page 96)

Overhead Conveyors for Safe Handling of Fragile Heavyweights

The Louisville Plant of the American Radiator & Standard Sanitary Corporation is faced with the problem of handling on a high volume basis, heavy items which vary widely in weight, are irregular in shape and have very critical surfaces. For example, the enameled cast iron bathtubs manufactured there range from 175 to 400 lbs. in weight, and from 4½ to 5½ feet in length. Their enameled surfaces must be protected from scratching and marring. If they are dropped, the bathtub itself may crack or break or pieces of the enamel may flake off. Then it must go to the scrap pile.

Former Handling Methods

Prior to the installation of present methods, finished bathtubs were moved largely by manual means a distance of 500 feet from the cooling area to the crating line.

The disadvantages of this method were the great physical exertion required; the congestion in plant aisleways, and the disproportionate amount of manhours required for the entire operation.

More costly handling methods were also used in crating and warehousing operations. Personnel were shifted from one part of the crating process to another according to immediate job requirements. After crating, tubs were again laboriously moved to the warehousing area. Stacking of the baths for storage was done manually. The photos of the present method at the right show the difference.

Present System

These photos illustrate the present efficient material handling operation. While this story details only the handling of bathtubs, the American-Standard Louisville plant also manufactures enameled cast iron lavatories, sinks, laundry trays and brass plumbing fittings. Very similar modern systems have also been installed for handling such products.

In the new method of handling bathtubs a system of overhead conveyors carries the finished bath from the cooling area, through inspection to crating. Crating is largely mechanized, set up on a "mass production" basis, with each operator assigned to one definite task. Transfer from crating to warehouse is accomplished by palletized loads on tractor-trailer trains. And very important, in the warehouse, instead of hand stacking, fork trucks raise stacks to a height of 19 feet, three bathtubs to a pallet, three tiers high.

The advantages of the present system are evident. The disadvantages of the former method have been almost completely reversed. Little physical effort is required and manual methods have been almost eliminated. Plant space in both aisles and warehouse is used more efficiently. Crating now keeps pace with the high handling volume. Manpower has been freed for more productive work and satisfactory savings in money and material have been realized.



BATH TUBS ARE TAKEN OUT of cooling area with special hand trucks (cooling area is in adjacent bays) and placed on overhead chain conveyors which carry them across the enameling room and into the inspection department in the next building. In this area →



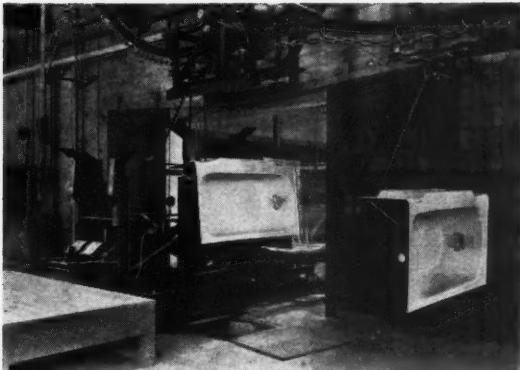
PREFABRICATED CRATES are placed around the bath tubs as they reach the roller conveyor. Crates are nailed together as they move along. Crate parts are fed to the conveyor line from either side of the room. Tubs are next moved to →



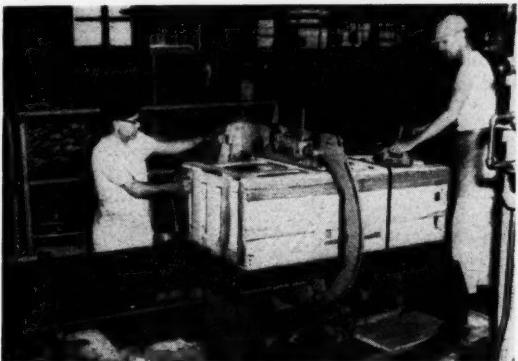
ARE PICKED UP BY A HOIST which operates on a section of monorail and are easily moved onto four-wheel platform trucks. Note special vertical lifting device is attached to the top, bottom and one side of the load. Loaded platform trucks are hooked together and →



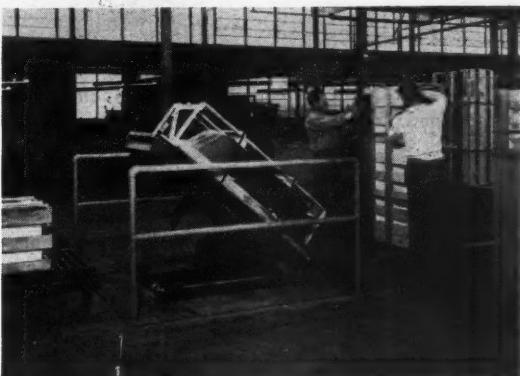
LOADS ARE CONVEYED past inspectors who, with the aid of bright lights, carefully examine each bath. Imperfect baths are immediately rejected. Overhead conveyors have replaced former methods requiring excessive manhours, physical effort. O.K.'d units ride on the conveyor to →



AN AUTOMATIC TURNTABLE which receives the baths from the overhead conveyor and discharges them onto a crating line in the adjoining room. The turntable automatically turns and spaces the units for easier handling later. During the next operation . . . →



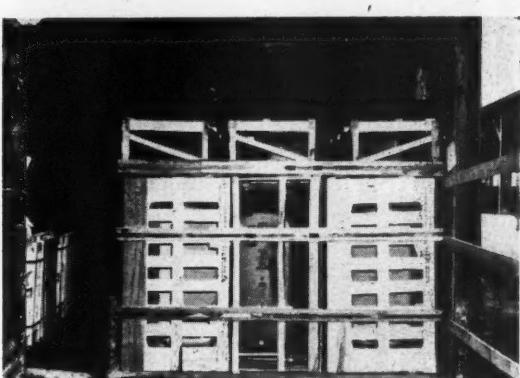
A POWERED STRAPPING TOOL which fastens, tightens, and seals steel strapping around the crates. Strapping results in better protection of the product during shipping. With units of this size, powered strapping greatly reduces necessary physical effort. Next →



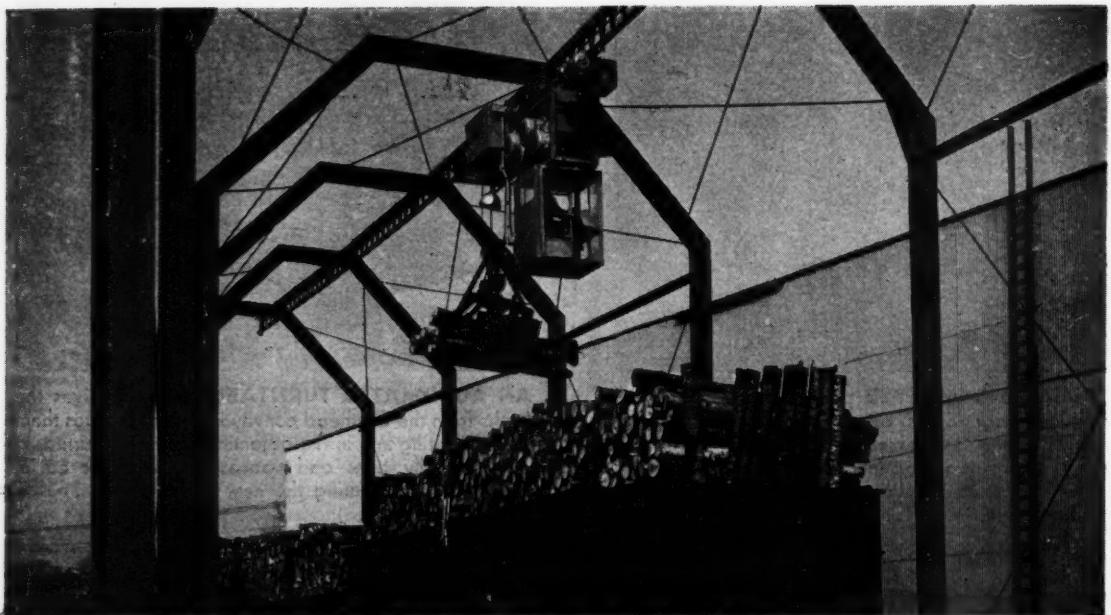
LOADS PASS ONTO CONVEYOR UPENDER which positions the heavy crates in a vertical position for subsequent handling. Before they continue their travel, operators stencil information on the crates. After they leave this station, the crated baths →



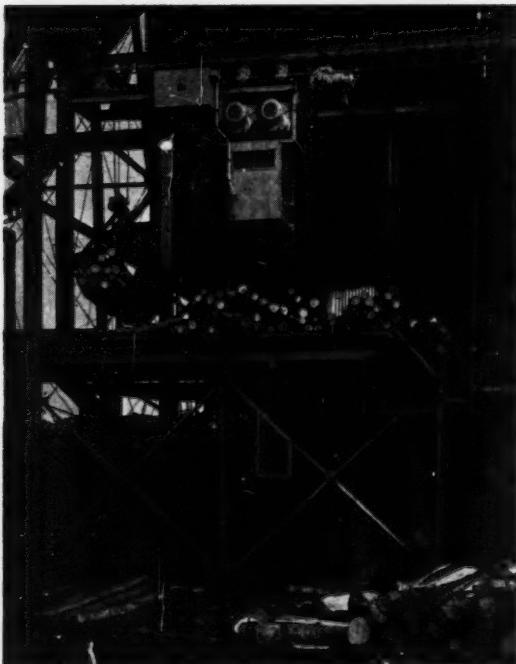
MOVED AS A TRAIN TO THE WAREHOUSE. Here, a fork truck stacks the heavy units three high in storage. Note that baths are originally loaded onto pallets which were placed on the platform trucks for ease during this phase of handling. Finally →



OUTGOING BATHS are moved to carriers. In rail cars, they are secured with bracing and steel strapping for safer shipment. Thus, the entire handling system is designed so that there is a minimum of physical effort with maximum product protection.



MONORAIL TRACK is installed high above the siding where carloads of pulpwood are received, and is suspended by a series of rigid welded frames straddling the railroad track. All required rail clearances have been maintained. Cars are unloaded in two hours.

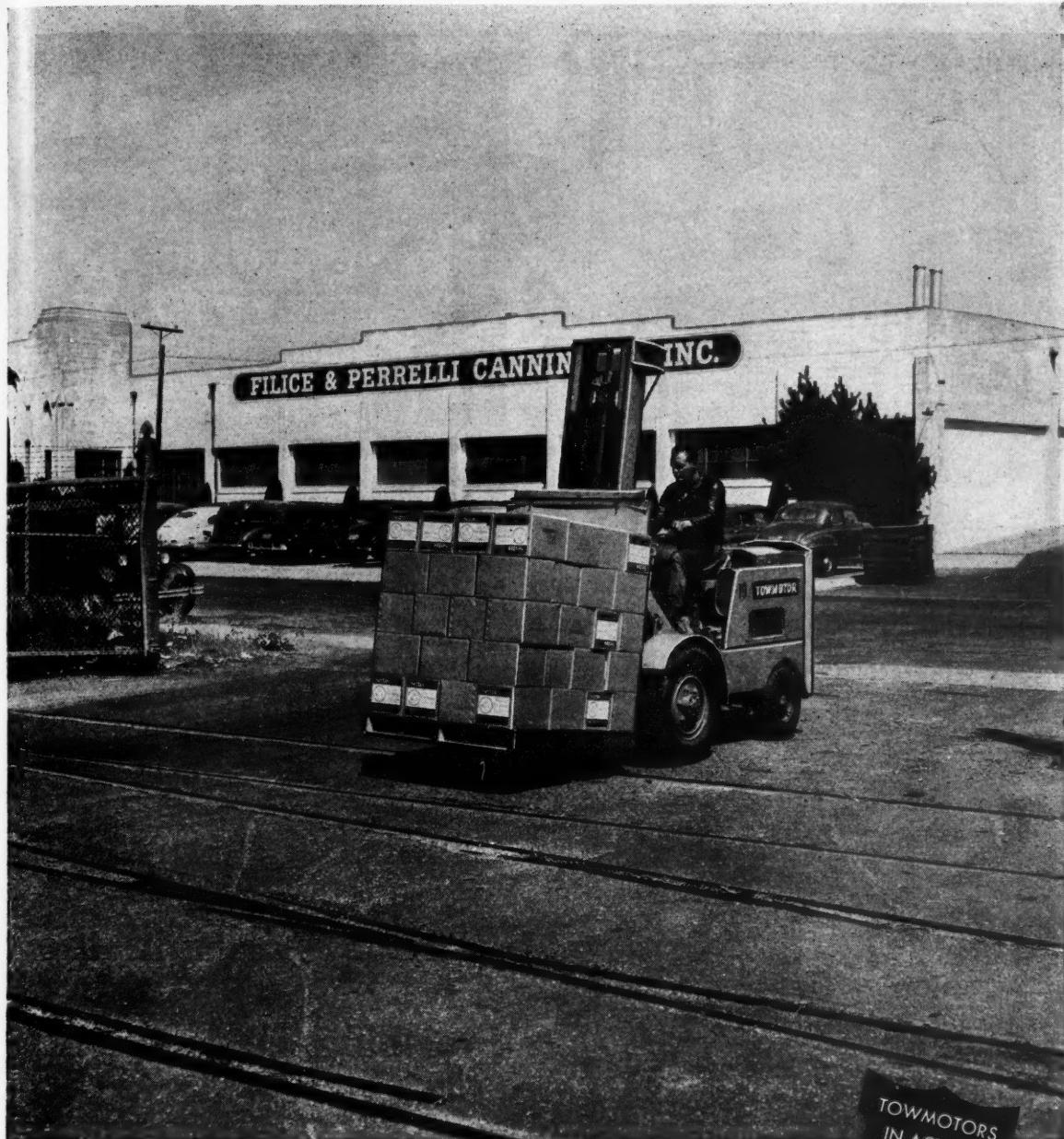


ADVANTAGES OF THIS SYSTEM are that there are no rehandlings, operator has full visibility, grapple may be interchanged with clamshell.

Faster Handling of Irregular Shapes With Monorail- Hoist System

A monorail system, with a motor-propelled and cab-controlled carrier equipped with a pulpwood log grapple, speeds unloading of gondolas at the Waldorf Paper Products Co., St. Paul. Logs are transferred from incoming carriers to a chipping operation as they are unloaded. Three gondolas can be spotted and completely unloaded with this system without respotting the cars. It takes only about two hours to empty each car.

The grapple is operated by two electric hoists in the carrier—one on the closing line and one on the holding line. Hoists are identical winch types except the holding line is actually two lines operating from a double drum hoist. This double line gives stability to the bucket horizontally and prevents rotation.



From the Filice & Perrelli Canning Co., Inc., Richmond, California, warehouse, an 80-case load is delivered to a terminal across the street.

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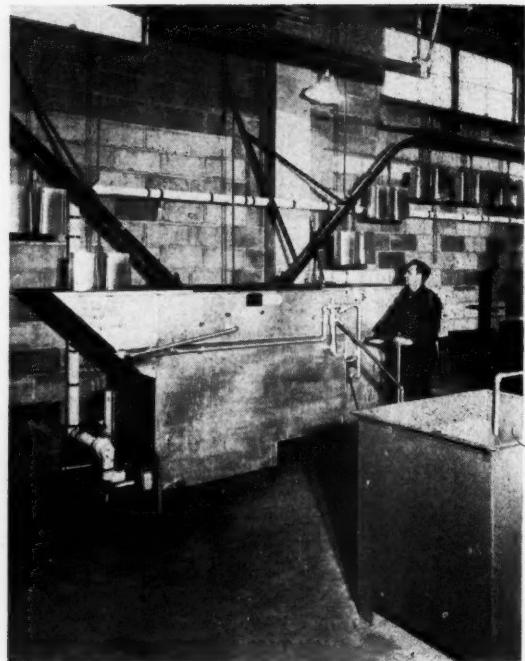
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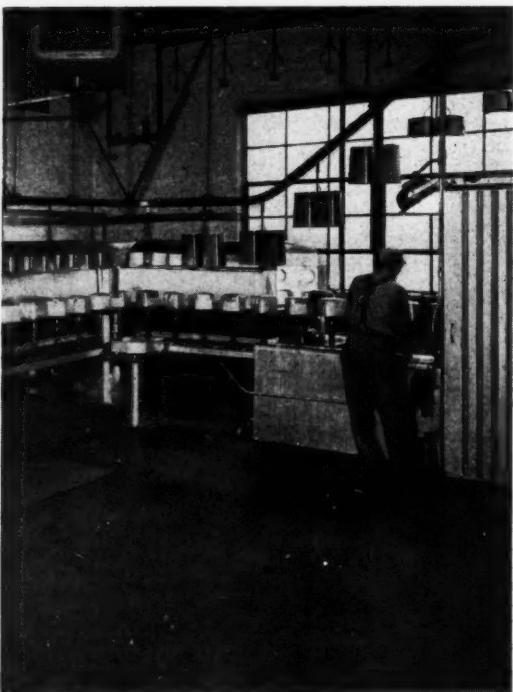
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COSTS WERE REDUCED 90% by installing this automatic varnish impregnating and baking machine. Uniform distribution of varnish provided better insulation properties.



AUTOMATIC DEGREASING was made possible with this overhead conveyor. Parts are hung on the conveyor in another department, are dipped in the bath as they move along.



CONTINUOUS FLOW DURING PAINTING is accomplished on the same type of conveyor. Parts need not be handled individually, are sprayed as they move on the inter-departmental conveyor.

Can you ELIMINATE REHANDLING in the Finishing Department?

Elimination of costly and time-consuming hand handling during baking, degreasing and painting has been effected by the Air-Way Electric Appliance Corp., Toledo. All operations are now done by conveyors. In fact, two of the operations are part of interdepartmental flow. Thus, this firm is a prime example of how flow may be planned so that certain processing operations are actually done "en route".

As shown in the photos, work proceeds on an orderly, continuous basis. Here are some of the advantages to this new system. Even application of paint and uniform baking, for example, has meant a better looking product. Mechanical degreasing has reflected in better succeeding operations.

In addition to production benefits man-hours were slashed, flow was speeded and systematized, and handling costs greatly reduced.

DOUBLES STORAGE CAPACITY

with Adjustable

UNISTRUT®
PALLET RACKS

CONSERVES STEEL
REDUCES MANPOWER HOURS
CUTS OVERALL COSTS



UNISTRUT pallet racks speed order filling, permit safer handling of stock, simplify inventory problems for Wm. H. Ziegler Co., Inc., distributors of construction and industrial equipment and supplies. These racks have more than doubled available storage capacity in their Minneapolis warehouse.

Sketch shows construction of a typical UNISTRUT single pallet rack stanchion and close-up views of fittings and connections. With UNISTRUT framing there is no drilling, no welding, no special tools or equipment needed. Engineering is simplified—all you do is cut channel to size and bolt fittings in place. Whether you are building a small or a large rack, the UNISTRUT system is easy to work with, completely adjustable, provides great strength without bulk.

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Principal Cities—Consult Your Telephone Directories

U. S. Patent Numbers
2327587 2329815
2345650 2363382
2380379 2405631
2541908
Other Patents Pending

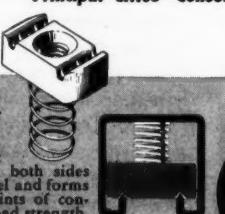
UNISTRUT PRODUCTS COMPANY
1013 W. Washington Blvd., Chicago 7, Ill., Dept. A-7.
Please send the items checked below, without obligation:

Rack Catalog No. 600

UNISTRUT Sample

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Only UNISTRUT
offers this Spring-Held Clamping Nut which ties together both sides of the slotted channel and forms a Box Section at points of connection for greater load strength.



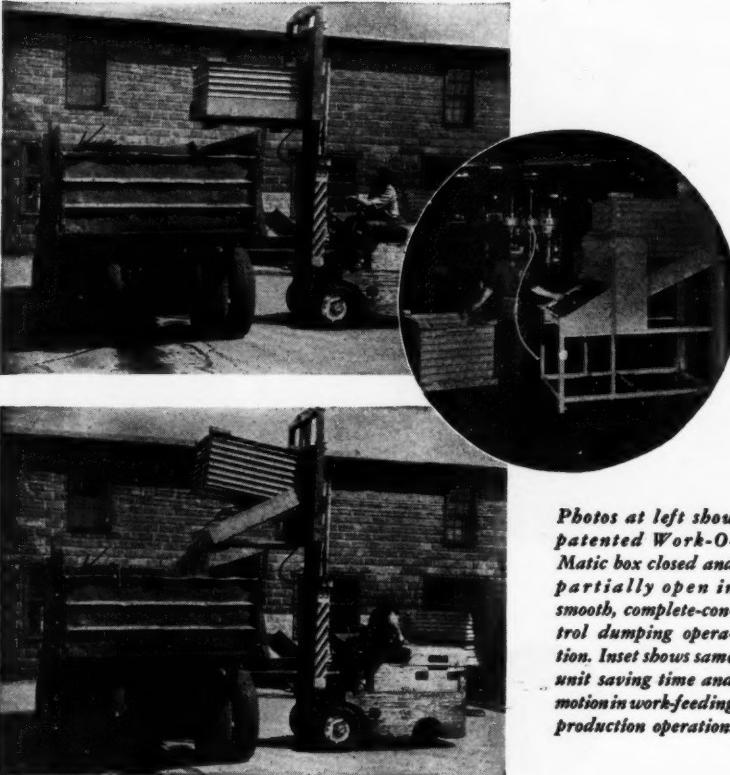
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The Work-O-Matic* Box GOES ALL THE WAY

to save you time and money!



Photos at left show patented Work-O-Matic box closed and partially open in smooth, complete-control dumping operation. Inset shows same unit saving time and motion in work-feeding production operation.

IN production operations, the Work-O-Matic box pictured here is boosting output up to 50% in job after job. But that's not the whole story!

For example, look how it greatly simplifies and speeds dumping or disposal. Even materials normally hard to discharge are readily dumped, because this box opens to almost 90°. What's more, the dis-

charge point remains constant throughout the dumping operation at any point within the lifting range of the fork truck.

Get all the facts—on increased production, improved handling and storage and faster, complete-control dumping. Write to The Union Metal Manufacturing Co., Canton 5, Ohio.

*Patent No. 2,445,088. Other patents pending.

UNION METAL
Materials Handling Equipment

Circle No. 50 on Reader Service Card for more information

Attachments Increase
Versatility of Overhead
Equipment . . .

(Continued from page 66)

cars. A tripod fixture is situated next to the siding opposite the doors of the car. On it is mounted a horizontally reciprocating arm. A special grapple is held at the forward end of the arm and is arranged for cable operation. In operation for unloading, both doors are opened and the horizontal arm is extended into the car. The grapple picks up a load of ties and the arm is retracted to the point where it can be swiveled around so the loaded grapple is in line with the box car doors. The arm is then actuated forward and the ties are carried out through the opposite door of the car onto waiting vehicle.

Other attachments which can prove valuable for handling similar products include: log tongs ordinarily used with derricks; log skidding tongs; logging dogs or grab hooks, designed for holding logs by their ends and used in connection with chain or cable slings; special timber grapples for use with cranes in timber handling and piling; gang cant hooks (in large sawmills many logs are first broken down at the head saw into large pieces called cants) which pick up cants by their ends to eliminate damage to sides, edges or corners.

Attachments for Handling Sheets and Plates

Grabs equipped with four drop arms or legs arranged in pairs are used for handling material like metal plates, or sheets in packages while they lie in horizontal position. Often these devices are provided with handwheels used for operating a spreading and contracting mechanism. Each of the two pairs of legs are arranged to operate as a unit. In this way, the two pairs of legs may be given a swinging action toward or away from each other. To operate, the two pairs of legs are spread apart, dropped down over a package or heavy plate, then swung inward until flanges underlie the edges. It is necessary to place horizontal separating bars between unit loads in stacks made by this method in order

**Grabs And Clamps Used
With Cranes And Hoists
Ease Handling of Sheets
And Plates . . .**

(e 66)

ated next doors of horizontal special end of cable operating, the horizontal car. d of ties the point round so with the then actu carried or of the can prove products rily used g tongs; designed ends and n or cable es for use lling and large sawn down pieces called by their to sides,

that the angle-iron flanges may engage the under side of each load without interference. These grabs may be adapted to specialized uses; notches can be cut in the under side of the handling angles to allow the extended flange to fit down between rollers of roller conveyors for lifting sheets off a "run-out" table or special angles incorporating curved back plates may be used to make such grabs suitable for handling coils of strip stock on end, etc.

Sometimes, when sheets are handled in bundles or packages in relatively small quantities, sheet bundle grips are used. This type grip has two special contact members or hooks, each of which has an appearance similar to a carriage clamp body although they have no direct clamping action.

In handling sheets and plates in the vertical position, it is generally imperative to use some kind of device which will engage over the top edge of the material to exert a powerful grip. Often, these devices are designed with an opening in their under side of ample width to allow them to drop readily over the edge of a plate after which the necessary clamping action is obtained. In some cases, the two jaws of the plate clamp are made quite heavy and one of them is drilled and tapped to receive a heavy set screw. The screw is manually tightened on the plate with a wrench. Although this type clamp requires more manual effort, it is often used when plates are handled overhead where men are working. This is due to the added safety factor.

Some clamps or grips for vertical handling of plate incorporate at the top of the clamp jaw a guide loop through which the lifting chain is run. The top end of the chain terminates in a hoisting ring and the lower end is affixed to a cam lever. In lifting, the cam is driven against the plate, holding it between the cam and the opposite clamp jaw.

Vertical plates are also lifted

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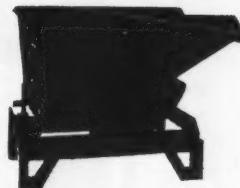
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Attachments For Specialized Loads Are Available . . .

through use of a clamp using a jack-knife linkage which, under the upward pull of the hoist actuates an eccentric cam against the plate to drive it against the opposite clamp jaw. Double chain type clamps and wedge and roller clamps are also available attachments for use in handling sheets and plates vertically.

Large Sheets of Glass

Large sheets of glass usually cannot be safely handled in any other than a vertical position unless they are held on a flat pallet or other flat device which gives them perfect support under their entire area. For handling these large sheets of glass industrially, specially designed grips are available. They grip the sheet of glass firmly at a point considerably above its center of gravity. Grips are rubber-protected and are engaged firmly on the glass by means of a simple lever.

Bar Stock

Pipe tongs have rounding jaws and are employed for handling both heavy pipe and round bar stock. They are useful as a general utility tong for fast handling of steel shapes, bundled bar stock, billets and bars, castings and turned members of steel. When used for pipe and round bars, they are usually equipped with jaws that will open to a spread suited to the diameter of stock being handled. Pipe end hooks are also considerably used where it is desired that pipe shall not fulcrum while being handled. Pipe end hooks are usually designed so that the weight of the pipe is carried on a pad which extends through the end coupling and into the pipe itself.

Structural Shapes

Most rail tongs operate on the lazy tongs principle. They usually have jaws designed to allow them to spread over the upper part of the rail and engage the web portion below. Girder hooks are designed to carry the load on the points of two hooks which extend well under the flange and engage close to the girder web. The hooks are made quite thick and are slotted

for straddling wide stiffeners which might otherwise interfere with proper placement of the hook.

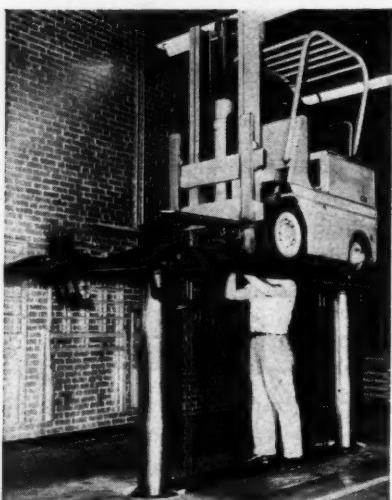
A safe and fast means for moving flanged sections through various fabricating processes is provided by the beam tong. The jaws are usually designed for equal efficiency on both standard and wide-flanged sections and the closing arms are proportioned to provide sufficient contact pressure to insure safety against slipping while under load.

Torque hooks are used for lifting such structural steel shapes as beams, channels, girders, plates, etc. With them, as the load becomes greater, so does the grip of the hook. Since the torque action is developed when the load is applied and since it increases in direct proportion to weight of the material being handled, the heaviest sections can be moved as simply and safely as the lightest.

Material In Racks and Tote Boxes

There are instances where work to be handled can best be loaded and handled in racks. In some of these cases, special pallet racks and pallet tongs have been designed for use to-

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Globe Industrial Truck Service Lifts are available in either single or 2-post models. A removable bridge plate spans the runways to permit handling 3-wheel trucks on the single post types.

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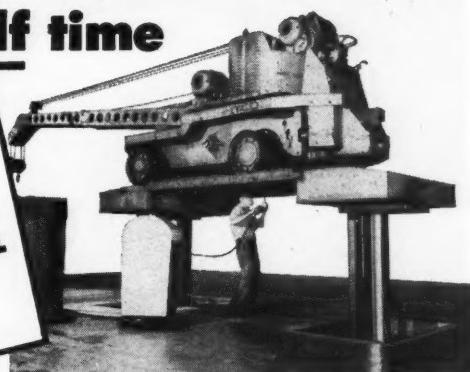
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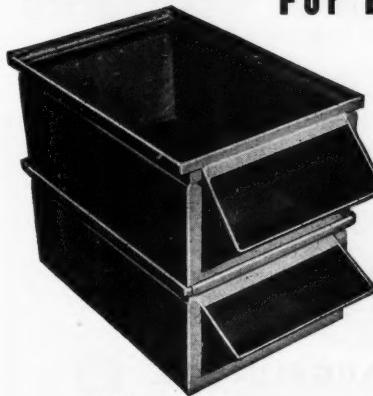
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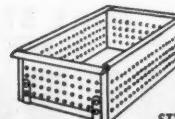
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No matter what type of small parts you are handling, there is a TELDAY container specifically engineered to meet your needs. If you want a container that is liquid-tight, if you have need for a shop box that can be used for carrying as well as storing, if the container you buy must double as a feeding unit at work stations, there is a TELDAY Engineered Container that is made just for this purpose. And there are dozens of other models that are also available for immediate delivery.

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FLOW

Handle Loads in Boxes?

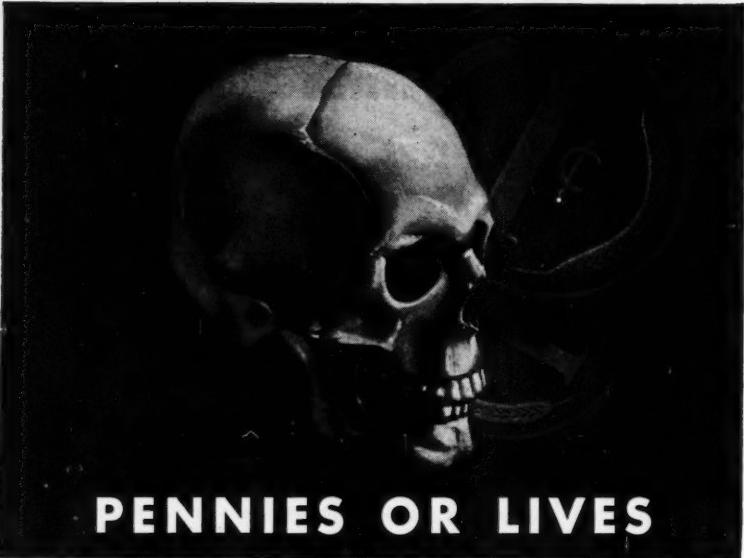
gether. Quite often, racks are designed to permit tiering several high to save space. Racks are sometimes fitted with upwardly extended lugs enabling them to be picked up from overhead. This type is excellent for use as bath racks in quenching, pickling and plating operations.

There are various motor operated tote box grabs being used in connection with monorail systems and mono-rail tractors. Using such grabs permits handling of large tote box loads speedily and without concern for aisle clearance or floor conditions. The boxes may be picked up and delivered by one operator who has means of full control over both grab and hoist in his cab. Sometimes, a tilting box grab is used. Then, two independently operated hoisting units support the grab and pouring or dumping from the box is accomplished by operating only one hoist.

Attachments for Handling Boxes

In handling boxes, several types of attachments can be used. Sometimes simple tongs with sharp points are suitable. In other cases, utility hooks used in connection with closed slings for engaging tops of boxes are used. Another common method makes use of a grab having two grooved type side members which are drawn together or spread apart by means of a parallelogrammic linkage. This type grab is automatically adjustable through a fairly wide range. Special adjustable hooks with long adjustable arms are also available for handling boxes running a great range of widths.

Here are more box handling grips and grabs you might be able to use: Spur pad box slings—available in capacities suitable for even the largest crates; box tongs incorporating spur pads on the ends of ordinary tong arms; parallel box tongs, quite often preferred for handling boxes and crates which must be gripped near the top edge, (on these tongs, the jaws move in on the load with a perfect parallel movement and the leverage is sufficient to set the spurs without crushing); rotating box grabs for use in handling open-top boxes containing material in process; tongs for handling



PENNIES OR LIVES



Behind many industrial accidents is the ghost of equipment failure, often caused by skimping on quality in favor of a few cents saved.



Such economies are always risky, always more costly in the end.



But when you use Laughlin Safety Hooks (and there are 15 sizes in eye, shank and swivel patterns) the extra pennies you spend will pay big dividends in protection of men and equipment.

The latch locks the load. It cannot open until released by the operator. And it's made of pressed steel or bronze with a stainless steel spring that won't rust or weaken. The cam is an integral part of the hook forging for extra strength.

The quality construction of Laughlin Safety Hooks is typical of all of Laughlin's 1500 types and sizes of drop forged wire rope and chain fittings. So remember—to save with safety always insist on the name LAUGHLIN for original equipment or replacement fittings.

Our Catalog No. 150 shows and describes the complete line. A free copy will be sent on request.

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LAUGHLIN

THE MOST COMPLETE LINE OF WIRE
ROPE AND CHAIN FITTINGS

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Bales And Drums Are
Easily Handled with
These Attachments . . .

corrugated cartons or other light boxes or bundles.

Bales

In some cases bales are handled with bale tongs varying in maximum reaches from 12 in. to 36 in. Some of them are rated at capacities ranging from 500 lb. to 1000 lb. An interesting type of bale handling device is the motor-driven screw grab. This grab has auger-form motor driven screws which worm their way into bales of pulp or cotton.

Attachments for Handling Drums

So much material is packed and stored in drums that drum handling devices are of paramount importance. Some of these are hook types and are used in connection with open slings, the hooks engaging over the ends of drums or barrels being handled. Roll-over grabs are also used where it is desired to tilt the drum in the grab. Some grabs are arranged to lift a

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Circle No. 56 on Reader Service Card
JULY, 1952 • FLOB

There Are More Types Of Slings Than You May Have Imagined—For Example . . .

drum while its axis is in a vertical position. Some highly-special drum grabs incorporate a frame resembling an inverted U. Within it, the drum is handled in a trunnioned mounting. Such drum grabs are highly useful in cases where it is desired to pour or dump from drums with a highly sensitive action. A device for lifting open barrels consists of a set of two special tong grips, connected with a cable or chain spreader. Band grips are also available for drum handling. Their advantage is that they clamp around the entire outside of the drum and will therefore handle a heavy load in a drum made of relatively light material without buckling the drum.

Special vertical barrel slings are also available. They hold the container in such a manner that it may be lifted vertically and rotated in either direction for pouring or emptying the contents. Incorporated with the sling is a steel band which passes around 180 degrees or more of the drum diameter.

Drum chime tongs are other devices which make it possible to handle steel drums in the upright or vertical position. They incorporate sliding jaws which adjust instantly to drum diameter and have lifting arms which are self-equalizing. Therefore, both jaws have the same positive grip.

For handling barrels or drums in multiple several devices have been designed. One for instance handles and stores four barrels of white lead at one pass.

Attachments for Handling Block Type Materials

Handling block-type materials is often made easier through the use of pallets. Often, a multiple-sling grab is made up of a flat pallet with eye-fitted lugs at the corners. This, used with four sling chains running from the four corners to a hoist ring above makes it a simple matter to move a number of heavy concrete blocks or similar block material with ease, using a monorail or crane for the purpose.

When handling objects or material which, due to their finish or fragile

construction must have special handling care, belt slings often do the job. They are made of heavy woven cotton belt with a triangular form or ring at each end of the belt for engaging the hoist hook.

As might be gathered from the preceding material, the variety of attachments available to adapt overhead handling equipment to special operations is tremendous. If, in looking through the illustrations you see an attachment you might be able to use and want to know more about write

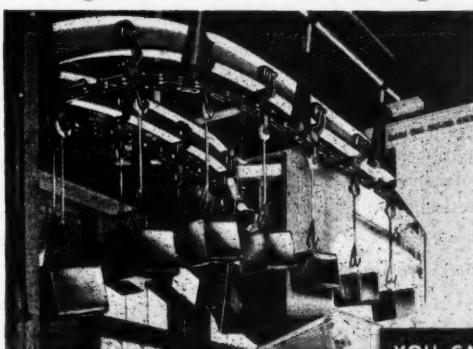
to the editors, and we will be happy to dig into the subject a little deeper.

FLOW thanks the following companies for their invaluable help in preparing the preceding survey. . . . Blaw-Knox Co., Cleveland Beacon Products Co., Cleveland Crane & Engineering Co., Elizabeth Iron Works, Heppenstahl Co., Industrial Brownhoist Corp., Link Belt Co., Merrill Bros., Owen Bucket Co., Palmer-Shile Co., and Whiting Corp.

The illustration shows a large, two-story building with a prominent portico supported by four columns. The building has a classical architectural style with decorative moldings and a pedimented roofline. It is surrounded by trees and shrubs. The word "Cincinnati" is written in a stylized script font across the top left of the illustration.

THE TAFT MUSEUM
now a famous Cincinnati landmark was once the residence of Mr. and Mrs. Charles Phelps Taft. Built in 1820 when architecture was influenced by classic forms, this historic house merits the visitor's attention for its charm and authenticity.

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What's NEW in useful literature

Free

The publications featured on these pages were written by experts. They are FREE publications. To obtain them use the postcard bound into this issue.

Improving Packing and Shipping Methods:

Guide to Better Packing and Shipping Methods—Catalog No. 15, published by Signode Steel Strapping Co. Discusses steel strapping, seals, tools, accessories, and applications. Full of ideas for anyone responsible for damage free shipping of commodities.

Circle No. 200 on Reader Service Card for more information

Safe, Quick Loading of Highway Trucks:

Cemco Hydraul-Lift Tailgate—four-page pamphlet offered by Cemco Industries, Inc. Tailgate is a hydraulically operated device which makes a raising or lowering platform out of truck body tailgate. Unit is said to provide economy, safety and speed. Complete specifications are given.

Circle No. 201 on Reader Service Card for more information

Handling Various Bulk Materials:

Terratrac—Folder offered by American Tractor Corp. Illustrates numerous uses for three models of crawler tractors. Attachments are shown for bulldozing, lumbering, loading, and others. All attachments operate from the drivers seat. Available with drawbar ratings of 20 hp, 24 hp, and 28 hp.

Circle No. 202 on Reader Service Card for more information

Light Weight, Strong Structures:

Aluminum Structural Design—A 130 page 6x9-inch book which states the case for aluminum and gives ideas on where and how to use it in your plant. Data contained in the book is said to be enough to enable the engineer to design a structure of aluminum. Complete information is presented on mechanical properties of aluminum alloys plus a discussion of structural design and fabricating considerations. Reynolds Metals Co.

Circle No. 203 on Reader Service Card for more information

Safeguarding Fork Lift Truck Operators:

Towmotor Overhead Guards—A data sheet published by Towmotor Corp. Gives complete details of construction of overhead guard. Recommended for all lift trucks with over 144-in. lift. Explains method of attachment to trucks both when new, and when for installation in the field. Specifications for guards for various model trucks are listed.

Circle No. 204 on Reader Service Card for more information

Fast, Easy, Economical Shipping By Air:

How to Ship By Air in Corrugated Boxes—Booklet No. 6 in the Little Packaging Library of Hinde & Dauch Paper Co. Designed to help you pack and ship by air more effectively and more economically. Cites seven advantages offered to you by air shipment. Discusses restrictions, load limitations, and how to prepare a package for best results.

Circle No. 205 on Reader Service Card for more information

Getting the Most Out of Industrial Tires:

Monarch Catalog and Handbook of Industrial Tires—A complete coverage of industrial tires by Monarch Rubber Co. Tells about the types of tires available, and how to use them, to get more ton-miles per tire, cut the cost of bumps, and to protect your floors. To make it easy to find the right tire for your truck, tables list all the sizes required for all models of 12 leading truck manufacturers.

Circle No. 206 on Reader Service Card for more information

Increasing Economy of Bottling Operations:

RCA Uncaser and Washer-Loader—Bulletin published by the Radio Corp of America. Describes how the uncaser can be adjusted in about one minute from one size bottle to another. Sequence of operation from entrance of cases containing empties, to washing step is described. Is said to eliminate hand labor, cut breakage, speed up operations, insure cleaner bottles.

Circle No. 207 on Reader Service Card for more information

Selecting the Right Folding Carton:

Style Guide—a 28-page booklet in which Robert Gair Co., Inc., details construction designs for folding cartons. The designs covered, are said to be adaptable to almost any shape or type of product. Information is included on use of machine-filled and machine-formed cartons. Also contains a check list of points to be considered in planning packaging.

Circle No. 208 on Reader Service Card for more information

Gasoline and Diesel Powered Fork Trucks:

Buda Fork Trucks, Bulletin No. 1580—describes and illustrates 4000 lb. capacity at 18 in. load center fork trucks. The trucks can be had in gasoline powered model or diesel powered model. Complete specifications covering all parts of the trucks are listed. To aid in selection, all necessary operating data is given. Buda Co.

Circle No. 209 on Reader Service Card for more information

Speedy, Safe Overhead Handling:

Cable Conveyor Systems by Daigle-Gaboury—a four-page bulletin tells about increased production, reduced costs, and easy installation. Daigle-Gaboury, Inc., reports that this cable conveyor system will fit all standard trolley centers. Secret of the system is revealed as the use of a special split retaining nut.

Circle No. 210 on Reader Service Card

Reducing Sweeping Expense:

Wilshire Power Sweepers—a four-page folder by Wilshire Power Sweeper Co., describes the company's multi-purpose industrial models. Designed for all types of service both interior and exterior. Is said to eliminate all need for sprinkling or sweeping compounds. The 48-in. model will sweep in excess of 90,000 sq. ft. per hr., and a 36-in. model will sweep over 65,000 sq. ft. per hr.

Circle No. 211 on Reader Service Card

Cutting Loading Costs:

Baker Trucks at Work, Report No. 244—latest is a continuing series of material handling case studies released by the Baker-Raulang Co. It tells how United Stove Co., saved the cost of a new loading dock by using a fork truck with a revolving head attachment.

Circle No. 212 on Reader Service Card

Converting Beam Scales to Automatic Operation:

The New 77 Howe Weightograph—lists twenty important features of a new automatic weighing accessory manufactured by Howe Scale Co. The unit can be simply attached to any beam scale or to any scale convertible to beam operation, it is claimed. It gives readings in large, illuminated graduations and figures.

Circle No. 213 on Reader Service Card

Separating Ferrous Materials:

Memco Magnetic Pulleys—tells how to separate ferrous materials on conveyor production lines. Magnetic placement which is perpendicular rather than parallel to the pulley cir-

cumference is said to provide stronger, more effective cross-pole pull. No electrical force is required. Magnetic Engineering & Mfg. Co.

Circle No. 214 on Reader Service Card

power for average owner and economical, high work capacity for the large operator. Caterpillar Tractor Co.

Circle No. 215 on Reader Service Card

Heavy Handling Jobs:

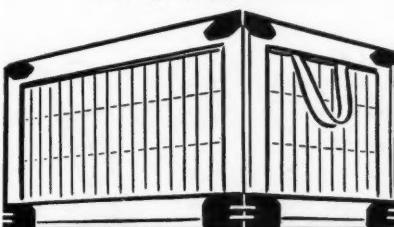
Caterpillar D4 Diesel Tractor—a catalog describing a 43 drawbar horsepower machine said to be of value in agriculture, construction, logging, mining and oil field work. Literature tells about long-life tractor

Conveying Large and Small Packages:

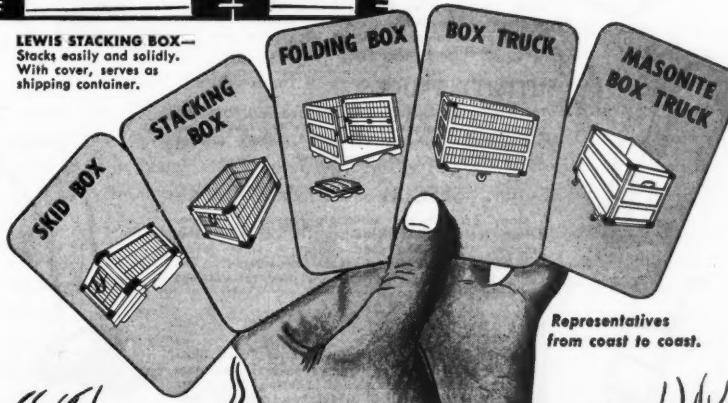
Streamliner Gravity Roller Conveyors—describes a dual-purpose unit that handles large and small packages on the same conveyor. All you have to do when a new size series of

LEWIS SUPPLIES

*the
winning
hand*



LEWIS STACKING BOX—
Stacks easily and solidly.
With cover, serves as
shipping container.



Representatives
from coast to coast.

G. B. LEWIS COMPANY

607 MONTGOMERY STREET • WATERTOWN, WISCONSIN

Circle No. 59 on Reader Service Card for more information

packages is to be handled, is turn the conveyor over. One way, rollers are set low so that channel side rails form a protective guard for small packages. The other way, with rollers set high, larger packages can be handled easily. Manufacturer is H. J. Ferguson Co.

Circle No. 216 on Reader Service Card

Counting and Packaging Small Parts:

The Weight-O-Pack—data sheet tells how the Weight-O-Pack packag-

ing machine can insure accuracy and reduce packaging costs. It is semi-automatic in operation, and packages products of various sizes, shapes and weights. Operating instructions are included to help understand how it operates. Interlakes Engineering Co.

Circle No. 217 on Reader Service Card

all industries including, construction, foundry, processing, paper, ceramics, and stevedoring. A valuable aid in the search for new ideas.

Circle No. 218 on Reader Service Card

Bulk Handling:

Industrial Handling—periodical published by Frank G. Hough Co. in the interest of bulk material handling progress. Contains case studies from



DESIGNED FOR Your USE

LANSING

2 WHEEL HAND TRUCKS IN OVER 50 MODELS AND STYLES FOR EVERY NEED!



WAREHOUSE TRUCKS

The Lansing Western Eagle Warehouse Truck illustrated is typical of the sturdy, practical design inherent in Lansing Company hand trucks. Warehouse trucks are available in many models in both Western and New York patterns.



BAG TRUCKS

Time-tested construction plus modern designing make Lansing hand trucks a safe, economical investment. The Minneapolis Bag Truck illustrated is one of a complete line of bag trucks that fill every handling requirement.



UTILITY TRUCKS

For all-round parcel, package and keg handling, sturdy, light-weight Lansing Utility Trucks are unsurpassed. Economy has been retained without losing convenience and ruggedness.



SPECIAL PURPOSE TRUCKS

Many products or materials require a special design for efficient handling. If you have this problem, there is a good chance a stock model Lansing Special Purpose Truck will solve it. The Lanco Chisel illustrated is widely used for castings and machinery parts.



BARREL TRUCKS

The Lansing Western Pattern Barrel Truck illustrated is ideal for barrels and yet suitable for boxes and general merchandise. All Lansing trucks are available in a choice of wheel types to suit your needs.



SEE YOUR MATERIALS HANDLING DISTRIBUTOR OR WRITE FOR CATALOG

LANSING CO. **LANSING, MICHIGAN**

LANCO MATERIAL HANDLING EQUIPMENT

HAND TRUCKS	PLATFORM TRUCKS	TRAILERS	LIFT JACK SYSTEMS	BARROWS

Since 1881

Circle No. 60 on Reader Service Card for more information

92

Handling in the Plant:

Mobidraulic Lange-Lift—catalog page describes the Lange-Lift which is said to increase production on your job. According to the literature, the lift moves easily, and can be adapted to almost any lifting and transporting job, or it may be permanently mounted on or in the floor at loading docks, inspection points or assembly stations. Lange Aviation Corp.

Circle No. 219 on Reader Service Card

Corrosion-Proof Battery

"What Truck Owners Have Prayed For"—introduces the Varley truck battery. These features are pointed out: no more corroded terminals, (caused by acid spray); plate life preserved indefinitely by new separator material; more power, easier starting, longer life, due to full length battery plates; no more vibration, because of full-cell cake construction which holds plates together despite road shock. Chicago Forging & Mfg. Co.

Circle No. 220 on Reader Service Card

Increased Switch-Engine Power:

More Power To You—joint publication of Baldwin-Lima Hamilton Corp., and Westinghouse Corp. explains increased horsepower ratings of Baldwin-Westinghouse switch engines. Several types of engines are covered from an 800 hp unit to a 2400 hp. unit. Tractive effort ratings are given in each case.

Circle No. 221 on Reader Service Card

Oilless Bearings:

Arguto Oilless Bearings, Catalog No. 210—published by Arguto Oilless Bearing Co., tells about the use of

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these bearings for screw conveyors and for conveyor rolls. Details of the construction of the bearings are contained in the literature. Specifications of the types available for conveyors of various manufacturers are given. Complete engineering information is included.

Circle No. 222 on Reader Service Card

Tales of Economical Handling Practices:

Handling Materials Illustrated—published by Towmotor Corp. Dramatic pictures showing material handling equipment in action illustrate on the job stories from all types of industries throughout the United States. Equipment shown includes fork trucks, and industrial walkie type trucks.

Circle No. 223 on Reader Service Card

Lower Costs, Increase Ease of Material Handling:

Hyster Attachments, Tools & Accessories—catalog in which Hyster Co. features equipment designed to lower the cost and increase the ease of handling materials with Hyster industrial trucks. The 24-page brochure includes model views, diagrams, specifications, action pictures, and explanatory text to bring out the features of the various special-purpose additions to basic material handling machines.

Circle No. 224 on Reader Service Card

Spotting, Switching and Hauling Railway Cars:

Cutting Costs On Grain Car Handling—tells how Anderson Elevator Co. used the Whiting Trackmobile, a gasoline powered car positioner, to speed up operations, and to cut costs. One machine moves cars from spur to loading station, from loading station to spur, and brings up empty cars for filling, without any interruptions in the filling operations offered by the Whiting Corporation.

Circle No. 225 on Reader Service Card

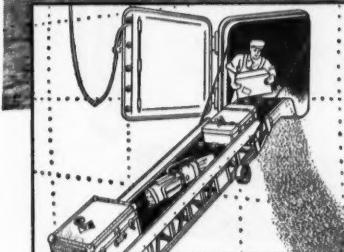
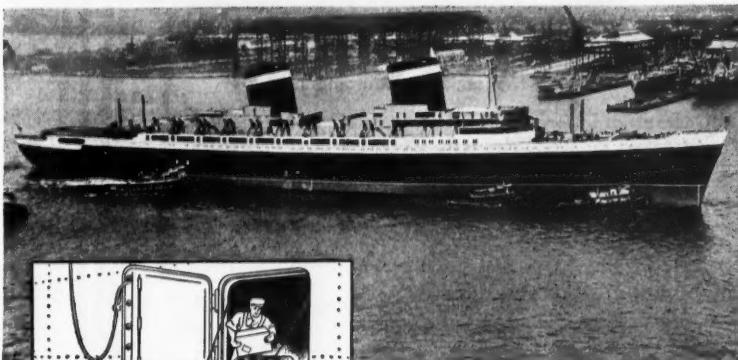
Motors For General Use:

Allis-Chalmers Squirrel-Cage Induction Motors—contains construction features, ratings and dimensions of Allis-Chalmers open drip-proof and splash-proof squirrel cage induction motors in rating of $\frac{1}{2}$ to 100 hp. Explains that motors are available

Circle No. 226 on Reader Service Card

One in a series of factual reports from owners of Farquhar Conveyors

FARQUHAR CONVEYORS CHOSEN FOR USE ON S. S. UNITED STATES

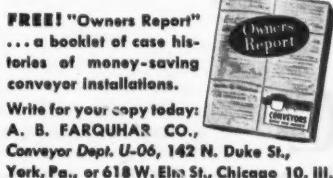


• Above: The S. S. United States, the largest and fastest U. S. passenger ship, enters transatlantic service on July 3.

• Left: Passengers' baggage, ship's stores, etc., move rapidly and safely from pier to ports on Farquhar Conveyors.

PASSENGERS on the magnificent new S. S. *United States* will receive their luggage in perfect condition, thanks to Farquhar Conveyors. The conveyors load the luggage quickly and efficiently from pier to side ports, without the need for nets and hooks that often bang and scar expensive possessions. What's more, ship's stores are loaded faster, reducing turnaround time of the ship, worth thousands of dollars an hour. The conveyors have been designed by Farquhar specifically for this operation, and blend well with the overall luxury appearance of this new ship.

Whether you move coal, gravel, sand, aggregates, cartons, boxes, bundles, bales, or any kind of bulk or packaged materials—horizontally or from floor to floor—Farquhar can cut your handling costs to rock bottom! One or more of the complete line of Farquhar portable, semi-permanent, and permanent conveyors will solve your handling problem. Our engineers will be glad to consult with you . . . at no obligation!



WORLD'S MOST COMPLETE CONVEYOR LINE

A. B. FARQUHAR COMPANY Division of THE OLIVER CORPORATION

Circle No. 61 on Reader Service Card for more information

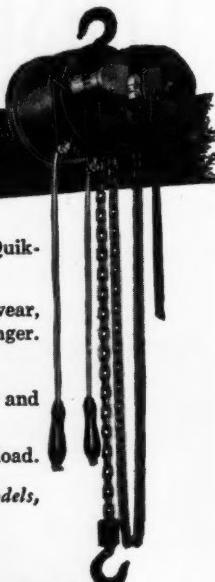
How you **SAVE ON** HOIST MAINTENANCE WITH COFFING

...Quik-Lifts

Here are just a few of the "extras" that keep Coffing Quik-Lift electric hoists on the job, save maintenance:

- Gears are drop-forged alloy steel, hard-faced for extra wear, soft-cored for added strength. Teeth are larger, stronger.
- Moving parts run on lubri-sealed ball bearings.
- Pendant rope controls are used for more dependable and trouble-free service over the years.
- Load-holding parts are tested at 100 percent overload.

*Quik-Lift electric hoists available in 17 models,
500- to 4,000-lb. capacities.*



...Challengers

Coffing Challenger spur-gear hoists are completely new throughout...with new lightness, new strength, new design simplicity:

- Housing is formed steel plate— withstands shock loads and rough handling.
- Laminated steel back plate gives extra support to hoist mechanism.
- Has five-to-one safety factor, tested at 100 percent overload.
- Gears and bearings have lifetime lubrication.
- The Challenger has only 29 basic parts—simplest spur-gear hoist ever made.
- May be completely disassembled in minutes with ordinary tools.

*Challengers and other Coffing spur-gear hoists
in capacities from $\frac{1}{2}$ to 5 ton.*



Test these points yourself. Pick out the toughest hoist job you have, install the right Coffing electric or spur-gear hoist—then see how little maintenance is required, how they stay on the job. For further information on Quik-Lifts and Challengers, write Dept. FL 7.

COFFING HOIST COMPANY

Danville, Illinois

HOIST-ALLS • SAFETY-PULL RATCHET LEVER HOISTS • MIGHTY-MIDGET PULLERS
DIFFERENTIAL CHAIN-HOISTS • LOAD BINDERS • I-BEAM TROLLEYS

Sold By Distributors Everywhere

Circle No. 62 on Reader Service Card for more information

with many special modifications such as totally-enclosed, vertical mounting, flange mounting, and multi-speed construction.

Circle No. 227 on Reader Service Card

Handling, Storing Small Items:

Fabricated Steel Products—Four page folder available from Telday Mfg. Co. Shows fifteen different models of shop boxes, all available in variety of sizes and to suit different specs. Steel shop and foundry barrels also illustrated and discussed.

Circle No. 228 on Reader Service Card

Easily Built Racks:

Flexa Channel and Fittings—An eight-page booklet showing many types of racks which can be built quickly and inexpensively from standard parts. Pallet racks, bar stock racks, general storage racks, and furniture racks are some of those illustrated. Complete specifications are given in the booklet published by Flexa-Steel Products, Inc.

Circle No. 229 on Reader Service Card

Selecting The Right Conveyor:

Lamson Roller Gravity Conveyors—a 28-page two color booklet designed to help in the selection of a roller gravity conveyor. Contains size and specification data on gravity conveyors along with detailed construction characteristics. Accessories are illustrated and described so that a complete gravity conveyor system can be planned. A number of applications are illustrated. Lamson Corp.

Circle No. 230 on Reader Service Card

Reducing Time, Space in Weighing Operations:

Hydroway Hydroscale—describes crane scales in models up to 50 tons capacity. Manufactured by Hydroway Scales, Inc., the scales automatically weigh as they lift. Weight checking becomes routine and easy. Instructions for the care and use of these scales are included.

Circle No. 231 on Reader Service Card

Handling Liquids:

Carlyle Industrial Hose Assemblies Catalog—presents hoses for hydrau-

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lic fluids, paint and solvents spray, lubrication, and vari-purpose. Includes high pressure hose assemblies, and medium pressure hose assemblies. Many types of couplings are also illustrated and described. Complete specifications included. Literature offered by Carlyle Rubber Co.

Circle No. 232 on Reader Service Card

Smudge-Proof Labeling:

Labelon Plastic Tape—brochure from Labelon Tape Co., Inc., explains how this plastic tape can be used for thousands of labeling jobs. Special construction makes label permanent and smudge proof. Is applied without moistening; resists dirt, grease, water, and acids. Comes in choice of colors, widths, lengths.

Circle No. 233 on Reader Service Card

Economical Lifting and Hauling:

The Pitman Hydra-Lift—descriptive literature on a hydraulic truck-crane manufactured by Pitman Mfg. Co. The unit fits on frame of any truck, 1½ tons or larger. Gives lifting capacity of up to 6,400 lb. with a power-swinging boom. For handling pipe, structural shapes, large items, and almost any hard to handle product.

Circle No. 234 on Reader Service Card

Loading Pallets Efficiently:

The Automatic Pallet Loader—a 16-page bulletin which describes the newly developed automatic pallet loader being made by Lamson Corp. Shows how the loader fits into the production line to save time, insure correct loading. Shows how it can form an infinite number of pallet patterns, according to the nature of the cartons loaded. Includes engineering data on the standard unit.

Circle No. 235 on Reader Service Card

Selecting Conveying Equipment:

Equipment For Milling And Processing Industries—describes conveying, processing and power transmission machinery made by Link-Belt Co. Contains information to aid in selection of screw conveyors, belt conveyors, bucket elevators, Bulk-Flo, oscillating conveyors, and related components.

Circle No. 236 on Reader Service Card

Transporting and Stacking Material:

Electric Trucks—Bulletin 5143 of Barrett-Cravens Co., describes a complete line of tilting fork trucks, non tilting fork trucks, platform lift trucks, straddle type fork trucks, and other material handling devices. Complete specifications are given in each case, and outstanding features are discussed.

Circle No. 237 on Reader Service Card

Lifting All Types of Loads:

Globe Oilift Elevators—a new catalog published by Globe Hoist Co., presents its line of oil-hydraulic elevators for freight and passenger service. Covers a range of installations from small apartment house elevators to heavy duty units capable of lifting fully loaded fork trucks from floor to floor in factories, warehouses, storage depots, etc. Economies of the oil-hydraulic powered units are pointed out.

Circle No. 238 on Reader Service Card

BE PREPARED { To increase production To lower costs

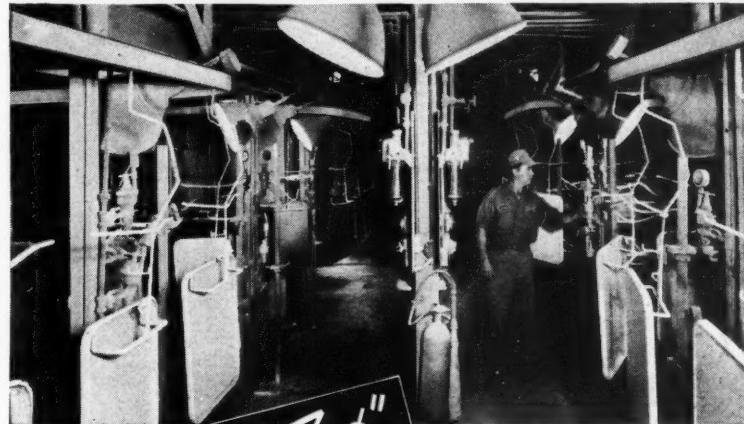


Photo courtesy Hamilton Mfg. Corp.

"Zig-Zag"
with R-W

Continuous Power Conveyor

Are you prepared to get the maximum efficiency possible from your production line? Or are you face to face with a profit-eating handling bottleneck? Well, here's the answer to your problem—Richards-Wilcox ZIG-ZAG Continuous Power Conveyor.

ZIG-ZAG Continuous Power Conveyors are a patented and exclusive engineering achievement of Richards-Wilcox. You'll find them constantly at work in every type of industry—boosting production, lowering costs, solving man-power problems and raising production line efficiency.

ZIG-ZAG Conveyor Systems are remarkable for their versatility and adaptability. Their unique construction features make them quickly, easily and safely convertible to handling materials in almost any industry. Each unit is engineered to fit perfectly into existing layout and conditions.

Tremendous savings in manpower costs and time pay for the installation often in less than a year's time. See how you can bring bigger profits, maximum efficiency to your production line. Check up on R-W ZIG-ZAG Continuous Power Conveyors with your nearest dealer today.

For complete details, or a prompt engineering consultation without any obligation, write our nearest office today.

Engineered for Economy and Flexibility

- Horizontal and vertical units alternate in a continuous chain traveling through special steel tubing.
- Complete flexibility for installation in any plant. Easily installed, easily changeable to conform to plant alterations.
- SAFE—all moving parts are fully enclosed.
- Low first costs. Low Power Factor.
- Standard horizontal or vertical curves—two-foot radius.

Richards-Wilcox Mfg. Co.

A HANGER FOR ANY DOOR THAT SLIDES*
AURORA, ILLINOIS, U.S.A. Branches in all principal cities
DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT
INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS
FIRE EXTINGUISHERS • TELEPHONE EQUIPMENT

1880 1952

Reg. U. S. Pat. Off.
OVER 72 YEARS

Circle No. 63 on Reader Service Card for more information

Control Wide Spread Warehouse Operations

Continued from page 73

suppose that a central packing area is preparing orders in group H. All associated departments will be filling orders in group J. On the master control board, this would show up as a single vertical line of lighted letters, with only the central packing department's lights behind. If any other department falls behind, the condition shows up

as out-of-line with the rest of the lights, and remedial action can be taken quickly.

Easily Constructed

To construct the master board, letters were sawed out of plywood with a jig saw. Behind each is mounted a small light bulb. Wires lead from the various departments to the master board, and from the packing and checking departments to each order filling department, as well as to the master board. The entire system runs on a single electric train transformer.

Results

Belknap reports that the system has paid for itself many, many times over. As compared to previous methods, the following advantages are outstanding:

1. Supervisory personnel now have a positive (glance) control over all departments. This of course saves considerable time formerly required for checking.
2. Each department has up-to-minute knowledge of what the packing department is doing. The system can best be described as a silent pace-setter for the entire stock selection operation.
3. Since material arrives only when needed, and not in sporadic jumbles, the shipping department operates in a more orderly manner than was ever before possible.
4. A smoother flow of orders from the plant is an automatic result.
5. The elimination of former confusion now prevents loss of material, damage to merchandise, late deliveries, and wasted time.

Applications For Sprinkler System . . .

Continued from page 77

Applications for the new spray nozzles and upright sprinkler heads may be spread among a variety of uses:

AS REPLACEMENTS in existing piping and water supply arrangements, equal protection may be obtained at lower water flowing pressures.

THEY ARE BETTER for severe hazards, so the new heads should be superior to ordinary sprinklers for light and moderate hazards. Better protection should be afforded when ordinary sprinklers are replaced by these types, especially where water pressures are inadequate.

ECONOMY may be possible on installation by spacing the new heads wider in low hazard areas. But on this point, says Factory Mutual, more tests are needed.

In fact, use of the new devices in low and moderate hazard areas will probably have to wait for more extensive testing. Factory Mutual believes their primary application will be the protection of special hazards like high-piled stock and flammable liquids.

Cesco Tote Boxes

...Cut Handling Costs
...Make Handling Easier

SPECIAL CESCO FEATURES

- Lightweight
- Self-Stacking
- Quieter Handling

... ruggedly constructed of hardwoods . . . steel reinforced (specially coated steel to prevent rust) . . . riveted for maximum rigidity.

An added Cesco feature . . .

CESCOAT

A new wood preserving process . . . waterproofs . . . greaseproofs . . . is acid resistant.

OTHER CESCO PRODUCTS

- Wire Baskets
- Tote Trays
- Special Pallets

WRITE TODAY FOR FURTHER INFORMATION

CESCO CONTAINER CO.

General Offices: 475 Fifth Ave., New York 17, N.Y. • Phone MU 5-4961
Factory: Northampton, Mass.

Circle No. 64 on Reader Service Card for more information

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Literature Featured In Ads

(Continued from page 50)

The Service Electraulic Lifter is a lift that lowers costs, says Service Caster & Truck Corporation. Bulletin 51 contains detailed information on both portable and permanently-installed units.

Circle No. 109 on Reader Service Card

A booklet from Quaker Rubber Corporation gives timely production tips on applying industrial rubber products for improved production. Covered are "Production-eered" hose, belting, packing and molded rubber products.

Circle No. 46 on Reader Service Card

Magnesium Company of America has literature which shows why many leading companies standardize on Magecoa Dockboards for freight car and truck loading, and how they benefit.

Circle No. 8 on Reader Service Card

Find out about the wide application of efficiency-boosting Lamson Airtube Systems to business and industry, large and small, by getting the descriptive technical bulletin, "On Target", from Lamson Corporation.

Circle No. 33 on Reader Service Card

Consolidated Industries, Inc., offers full information on its gas-powered platform trucks. With a carrying capacity of 2000 pounds, it is suited for a variety of jobs in warehouses, factories, docks, airports, supply depots and terminals.

Circle No. 133 on Reader Service Card

Bulletin 50 is available from The E. W. Buschman Company. It describes the Trojan, a portable loading dock which handles cartons, cases, boxes, crates or other packages up, down or on the level.

Circle No. 113 on Reader Service Card

HALLOWELL "UNI-TRUKS" MAKE TOUGH JOBS EASY

- All-steel, all-welded construction eliminates dead weight, reduces maintenance.
- Ribbed angle nose takes more weight without bending, makes pickups easier.
- Concave cross members accommodate drums, bags, cartons, rolls, kegs, etc.
- "UNI-TRUKS" roll more freely, handle more easily.
- Available in two models: #720 with 6" ball bearing, rubber treaded wheels, and a load rating of 350 pounds, #730 with 6" ball bearing, rubber treaded wheels, and load rating of 350 pounds. Both models are also available with 5" plain bearing, all-rubber wheels. Load rating is 250 pounds. Stair climbers can be furnished when desired.



HALLOWELL
®

Write for descriptive bulletin 789.
STANDARD PRESSED STEEL CO.,
Jenkintown 49, Pennsylvania.

HALLOWELL MATERIALS HANDLING DIVISION

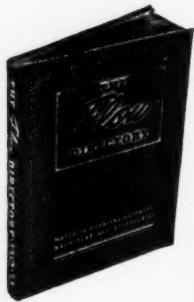
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Turn to page 97

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JULY, 1952 • FLOW

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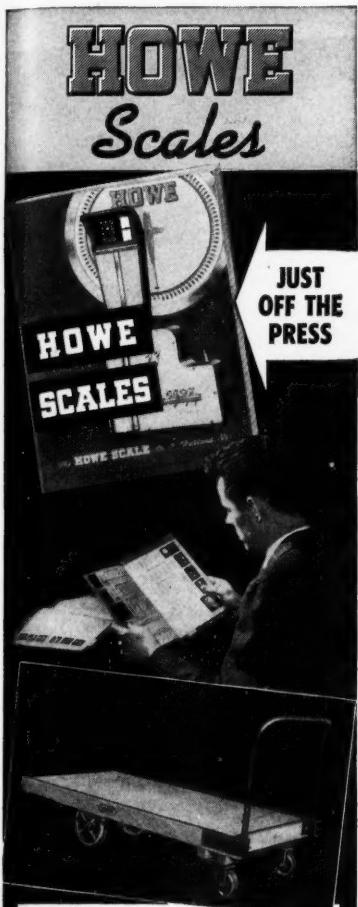
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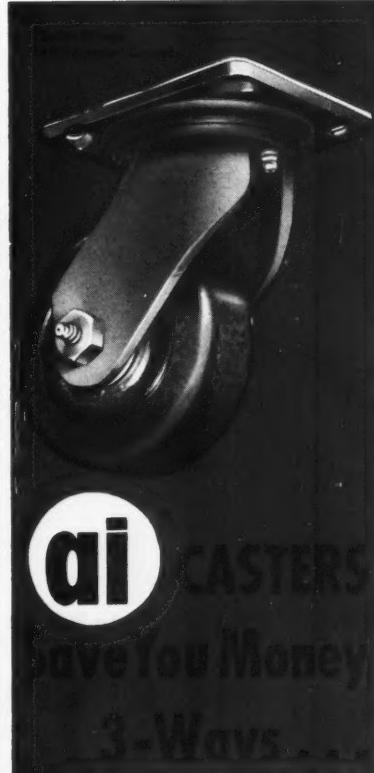
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FLOW • JULY, 1952

More News About Association & Society Activities . . .

(Continued from page 22) tor Freight Terminals; Carl E. Blass, Manager of Planning, Talon Inc., who spoke on "Storage Systems for Raw, in Process and Finished Materials; W. B. McClelland, The W. B. McClelland Co., who explained "A Cost Accounting System for Material Handling"; Sheldon Kavieff, Assistant Plant Engineer, Warren Ave. Plant, DeSoto Division, Chrysler Corp., who discussed, "Integration of Plant Layout and Material Handling." Keynote talk was presented by Donald Pennock, National President of the society. Featured speaker at a banquet was Russell J. Greenly, Assistant Director of Personnel, Jones & Laughlin Steel Corp. He discussed, "The Missing Links in Material Handling Problems".

The Philadelphia Regional Division of the Society of Industrial Packaging and Material Handling Engineers held their regular monthly meeting at the MLA Club in Philadelphia in May. Principal speaker of the evening was Joseph L. Krager, Packaging Design Unit, Engineering Products Division, Radio Corp. of America, who discussed the topic, "Functions of a Packaging Design Engineer." His talk outlined the organization and procedures used at RCA to provide an adequately designed package for each finished product that is manufactured by the company. It was revealed to the group that standardization is carried to great degrees to help in the reduction of the cost of packaging. A round table discussion was conducted by Leonard Barol in the absence of Mr. Gelber, the technical committee's chairman.



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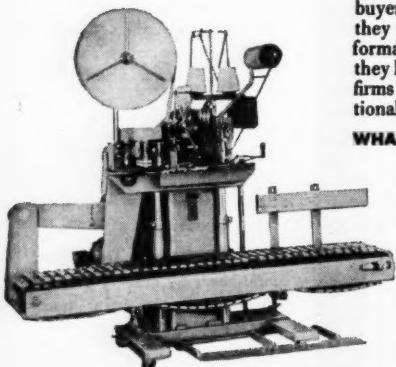
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PACKAGING and SHIPPING SECTION

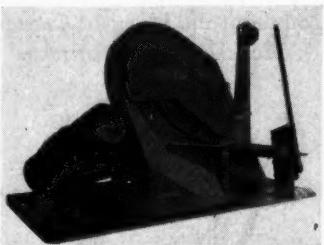
How To Meet Military
Packaging Specs When
Using Aluminum Foil . . . 103

Simplify Freight Car
Moving 112

Can These Devices Speed
Your Shipping? Here's
What They Did For
Lincoln Electric 116

What's New in Packaging and Shipping Equipment?

Power Strap Dispenser—*Signode Steel Strapping Co.*
For volume users of heavy-duty strap, Signode Steel Strapping Co. has developed this Mill type power strap dispenser. It handles ribbon wound strap in $\frac{3}{4}$ in., $1\frac{1}{4}$ in. and 2 in. lengths. Strapping is fed at a rate of six to 10 ft. per sec. Cutting operation requires two to four seconds. The unit occupies a space three ft. by five and



is three ft. high. Control is by push button.
Circle No. 183 on Reader Service Card for more information

Waterproof Tape—*Bauer & Black Div., Kendall Co.*
Polyken Industrial Tape Dept. of Bauer & Black has developed a tape which is said to be virtually 100% waterproof. It was designed to meet government specifications for Type I Grade A tape (under JAN-P-127). The tape is said to have excellent tack, adhesion, and tensile strength. It is available in O.D., black, red and all the other government specification colors.
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Corrugated Box Printer—*Industrial Marking Equipment Co., Inc.*

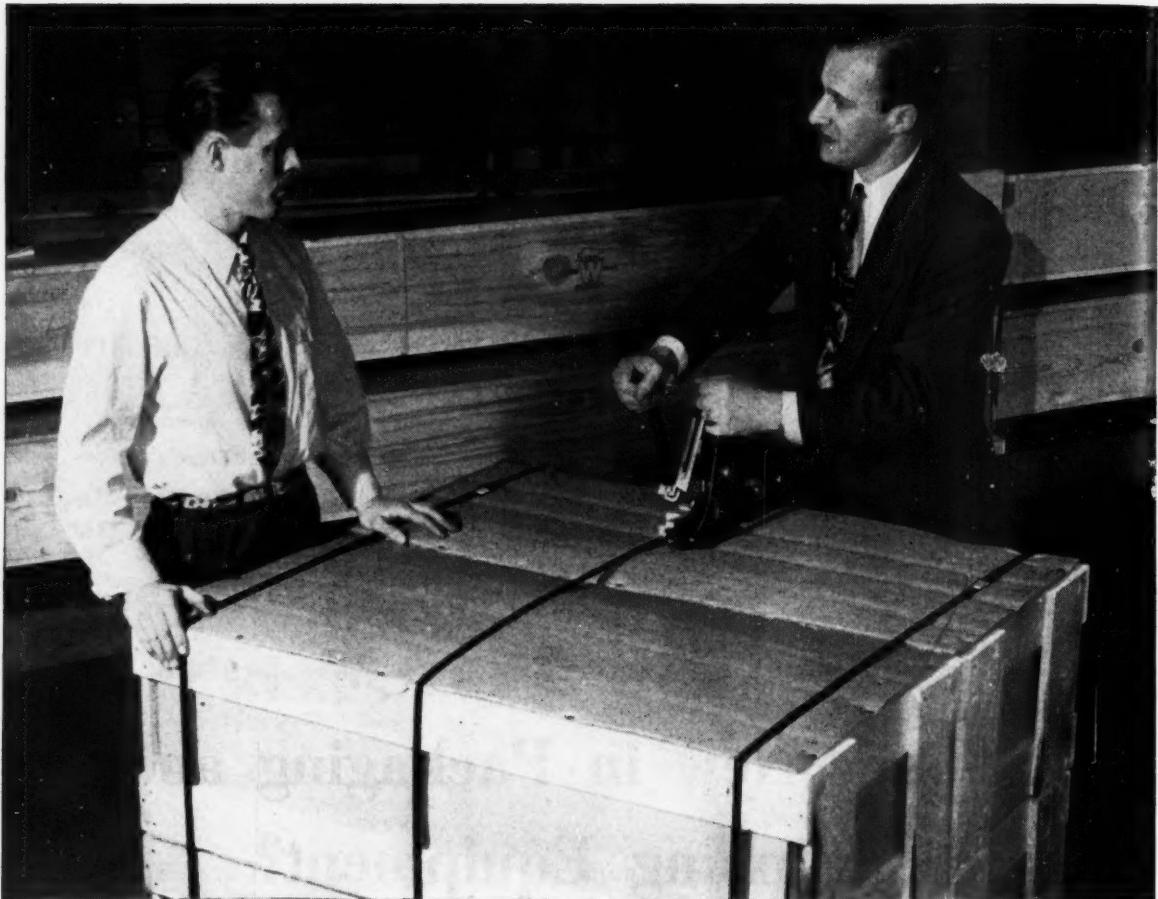
This corrugated box printing machine for knocked down containers makes possible printing all sides if so required in one operation. It is said to reduce your inventory problem since you print containers as you need them. The machine uses quickly interchangeable rubber type or mats requiring no make-ready. A quick dry-

ing, non-caking ink is used.
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Automatic Electric Stapler—*The Staplex Co.*

The Staplex is an automatic electric Stapler which is said to offer fast, automatic, fool-proof stapling. Both hands are free for work, according to the manufacturer. The machine has no time cycle, reportedly making it possible to staple just as fast as you want.
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Turn To Page 118



Demonstrates strapping unit loads to cut unit costs

LIKE other Brainard Strapping System salesmen, Paul Frank of St. Louis sells with service.

Here Paul demonstrates the proper use of Brainard steel strapping and strapping tools to secure four separate crates into a unit pallet pack. Such palletized loads expedite materials handling before shipment, in transit, and at the receiving end.

Use the experience of Paul Frank and his fellow Brainard salesmen. They are qualified to study your packaging and handling operations, then recommend and demonstrate the most efficient strapping system for you. And . . . you'll find them fast on their feet when you need service.

You'll get this superior service from Brainard salesmen located

throughout the U. S.; in Canada, P. J. McArthur Co., Toronto.



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For new catalog on Brainard Strapping System write Brainard Steel Division, Sharon Steel Corporation, Department K-7, Griswold Street, Warren, Ohio.



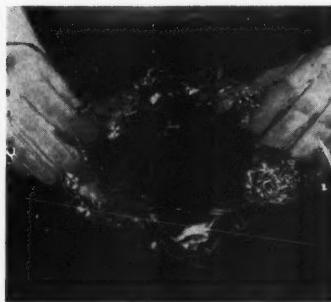
WARREN, OHIO

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Method IA-1

Type: Conforming Wrap, Dipcoat Sealed.

Requirements: After cleaning and preservation, the object is closely wrapped in Grade C material and then dipped in a dipcoat seal compound. Grade C is self-adhering, identified by its green color.



1. This connecting rod, thoroughly cleaned and with correct preservative applied, is ready for wrapping.

2. The next step is to place the rod on a sheet of aluminum foil and wrap it to hold the preservative.



3. The completed foil greaseproof wrap shows how the foil can be molded to such odd-shaped parts.

4. A Grade C overwrap is then applied. "Locked" folds should be used if possible, and folds sealed.

5. Here's the completed package after it has been wax-dipped. The label was applied prior to dipping.

How to meet Military Packaging Methods when using Aluminum Foil

By Paul M. Dearborn

Reynolds Metals Co., Louisville

The extreme importance of good military packaging is emphasized by the fact that during the early days of World War II, about half of all overseas shipments were lost because of improper packaging. We'd never been confronted by such a problem before, and this loss could thus be

attributed to lack of knowledge.

For instance, a good portion of the goods had to be stored in unfavorable locations, under adverse weather and climatic conditions in the various theaters of operation. However, producers of packaging materials made considerable progress toward the solution of the problem, and by the end of the war had reduced the loss figure to about 10 per cent.

Attempts to bring this figure as close to zero as possible are still be-

ing made, especially since one-tenth of every dollar spent for the procurement of military goods goes for packaging.

Let's discuss, then, the importance of packaging materials for the military. More specifically, let's consider the role played by aluminum foil. Incidentally, no attempt will be made here to evaluate or compare the merits of aluminum foil with other types of packaging materials.

Story Continues On Page 108

You'll Want To Save The Photo-Instructions On The Next 4 Pages



Military Packaging ... (Con'd.)

Method IA-2

Type: Container Overwrap, Dipcoat Sealed

Requirements: After cleaning and preserving the part, it must be wrapped in a Grade A material. The wrapped object is then placed in a carton or folding box, overwrapped with Grade C material, and dipped in wax. This method is especially suited to odd-shaped objects which could not ordinarily be packed neatly in a shipping container.



2. The rings are then inserted in manufacturer's cartons for further packaging. This method is especially acceptable when correctly-fitted containers are available.



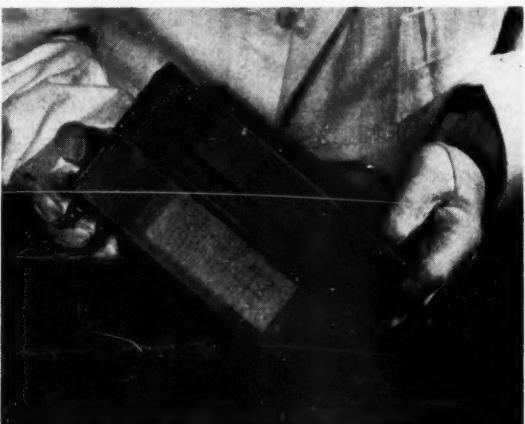
4. The seams and folds of the completed overwrap of Grade C pressure sensitive material are then sealed with a special tool and a Grade C sealing compound.



1. Proper preservative has already been applied to these rings, and they are ready for aluminum foil wrap. Foil is "doughnut" wrapped to conserve material.



3. Application of a Grade C overwrap is next. Enough material should be used to allow ample overlaps and to prevent punctures by the corners of the carton.

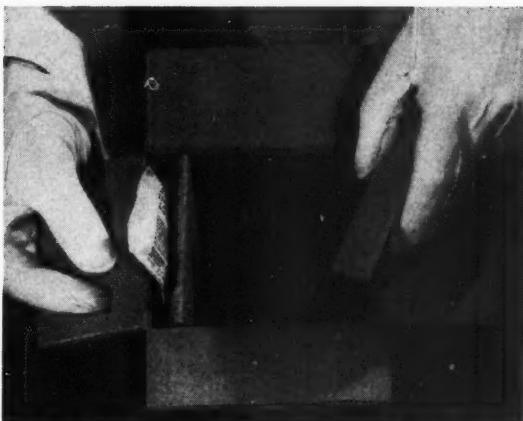


5. The completed package is shown after dipcoating. It should be dipped from either end and overlapped at least one inch. Label goes over opaque dip coats.

Method IIIb

Type: Container-Barrier-Container.

Requirements: The maximum load limit of its contents is 40 pounds. This method is very suitable to regularly-shaped objects which will fit fairly snugly in a fiberboard container. A dessicant is included in the carton. This carton is inserted in a bag constructed of Class B material and heat sealed. The entire unit is then inserted in another close-fitting container which is then properly closed with tape.



1. A small electric motor has been placed in a close-fitting container, properly cushioned. Note that a pouch with the correct amount of dessicant has been added.



2. After closing with tape, the container is inserted in a moderately snug-fitting bag constructed of Class B material that provides a moisture vapor barrier.



3. As much air as possible is exhausted without stretching the material too tightly over the corners of the package. The bag is then immediately heat sealed.



4. The container in its properly exhausted and sealed barrier bag should always be identified as to contents and then inserted in a second close-fitting container.



5. An approved tape is used to completely close the outer container. An identification label is required, as well as a label warning not to open until ready to use.

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Military Packaging . . . (con'd)

Method I

Type: Preservative, with Greaseproof Wrap When Required.

Requirements: After the part has been thoroughly cleaned and the proper preservative applied, it shall be wrapped with a Grade A greaseproof material, identified by its red color, or inserted in a greaseproof unsealed bag. The purpose is to keep dirt and dust out and to prevent loss of the preservative.

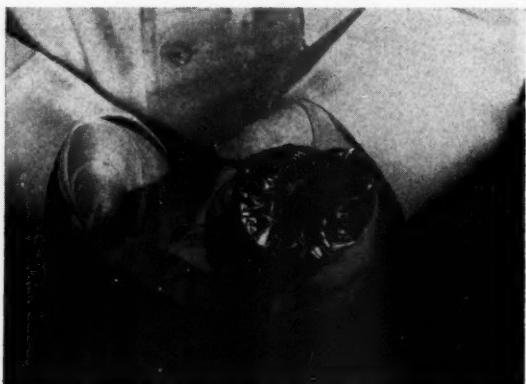


1. This tool has been thoroughly cleaned. A correct preservative has been applied, and it's ready for the application of a greaseproof wrap—in this case, foil.

Method IA-8

Type: Greaseproof, Waterproof, Moisture Vapor Proof Bag, Sealed.

Requirements: The cleaned and preserved part is wrapped in Grade A greaseproof material with the addition of cushioning, if sharp points are present. The wrapped, cushioned part is then placed in a greaseproof, waterproof, moisture vapor proof bag. As much air as possible is removed, and the bag heat sealed.

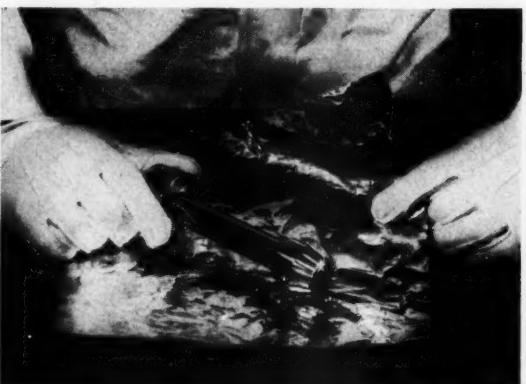


1. A bearing assembly is carefully cleaned and preservative applied. Foil is wrapped around the bearing, and passed through the opening in a "doughnut" wrap.

Method IB

Type: Strippable-Compound Coating.

Requirements: This method requires the approval of the contracting agency before it can be used. The part is cleaned according to specification, then dipped in a hot liquid plastic which hardens to form a skin-tight coating. Odd-shaped parts that would otherwise be prohibited can be so packaged if foil is used.



1. Cleaned and coated with preservative, this gear is ready for wrapping. As in all examples, gloves offer protection from possible corrosion by perspiration.

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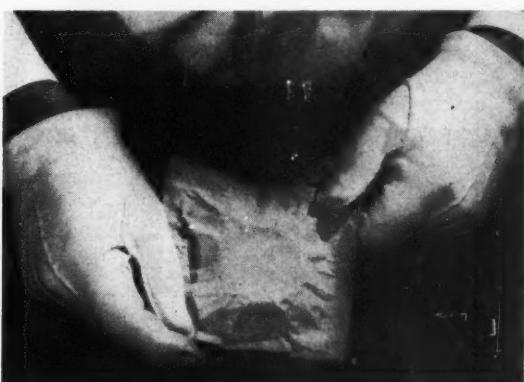
2. The aluminum foil is then applied and the wrap is shown completed. The deadsoft foil can be molded closely around the item, holding in the preservative.



3. With the application of an identifying label, the package is complete, and it's ready for unit packing. No other means of holding the wrap in place is needed.



2. After moisture-laden air is forced out by pressing the foil tightly, the bearing is inserted in a heat-sealable envelope and cushioning added, if necessary.



3. As much air as possible is withdrawn from the envelope, and the open end is heat sealed. The package is protected from moisture and rough handling.



2. When wrapped, the foil closely covers all the small voids and intricate shapes of the part, including the gear teeth. All possible air pockets are thus eliminated.

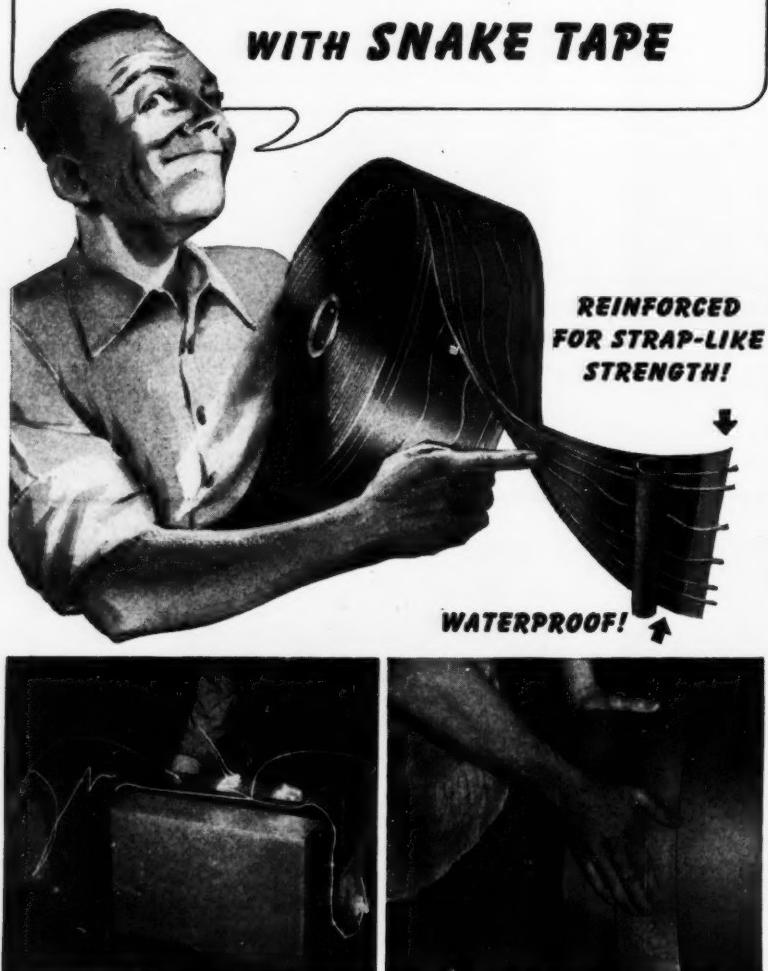


3. After labeling and dipping in a stripable plastic compound, the operation is complete. In dipping, a non-absorptive dipping cord of plain aluminum foil was used

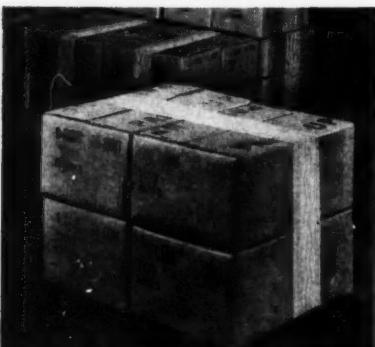
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SAVE TIME — 11 seconds was average time for sealing these cartons the "Snake Tape Way". Yet, these "TWO Strips" make a stronger closure.



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Here, Snake Tape substitutes for steel . . . makes ONE package out of four! Try Snake Tape for unitizing your packages. Send for test sample.

SAVE DAMAGE - So strong is strap-like Snake Tape, that it is used to reinforce packages that "get it in the end".



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FREE () 20 yd. sample
Snake Tape and literature.

.....(NAME, TITLE).....
Clip this to your letterhead.

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Aluminum Foil And Military Specifications

Continued from page 103

All packaging starts with cleaning—that is, the removal of shop dirt, fingerprints, etc. This cleaning is immediately followed, in most instances, by the application of a preservative or a rust preventative compound.

The next step is to apply a grease-proof wrapping material which will keep the grease in place where it will do the most good. In addition to being greaseproof, aluminum foil is dead soft. This dead soft feature makes it possible to mold the foil to every surface of the part being packaged so that the preservative will be held in the closest contact with all surfaces of the object. For greater strength, particularly on large items, the aluminum foil is laminated to Kraft papers.

This intimate wrap takes care of keeping the grease in the package, but additional steps must be taken to keep water, water vapor and all other elements from entering the inner part of the package. This is done by the addition of cartons, over-wrappings, dipping in wax or by insertion of the wrapped object in a heat-sealable bag.

The aluminum heat-sealable bag is made as follows:

Aluminum foil is laminated to paper with the addition of a heat-sealable coating on the aluminum foil side. Or, if greater strength and protection are desired, the aluminum foil is laminated to cotton cloth with the addition of plastic components.

If the moisture content of the space inside of a package is greater than 30 per cent, corrosion can occur. Consequently, an effort should be made to remove as much moisture-laden air as possible, either by using vacuum equipment or deflating by hand.

So far, these packaging methods have dealt with items which may be completely dipped in cleaning solvents and preservative compounds. Obviously, there are a great many military products, particularly of an electrical or electronic nature, which would be damaged or rendered inoperative by emersion in solvents or preservatives.

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CUSTOM DESIGNED

HEAVY-DUTY SHIPPING CONTAINERS

International's heavy-duty corrugated fibre shipping containers are now being used for such products as stoves, water heaters, washing machines, refrigerators, furnaces. Each individual packaging problem is worked out by International's experienced designers.



Let's look at this new shipping case for gasoline pumps . . . here's what it does:

- Delivers the pump to on-the-job workers without damage. Package can be opened and pump set in place in minimum time.
- Completely incloses the pump to preserve factory-brite cleanliness of the finish.
- Provides large, clean outer panels for displaying your product message and brand name.

We would like to give you more information about this and other package designs. Write to any of the manufacturing plants or offices listed below—



International Paper company

CONTAINER DIVISION

220 East 42nd Street, New York 17, N. Y.

Los Angeles 54, California
5120 South Soto Street

Chicago 38, Illinois
5133 West 65th Street

Kansas City 3, Kansas
2101 Kansas Avenue

Springhill, Louisiana

Somerville 45, Massachusetts
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St. Louis 11, Missouri
7901 Michigan Avenue

Whippany, New Jersey

New York 17, New York
220 East 42nd Street

Cleveland 13, Ohio
1001 Terminal Tower

Wooster, Ohio

689 Palmer Street

Philadelphia, Penn.

1126 Lincoln-Liberty Bldg.

Georgetown, South Carolina

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Specifications Are Available From The Military . . .

would run all through the electrical wiring system, and in order to make the system work it would have to be completely dismantled, cleaned and reassembled. This, of course, is not possible in the field.

Consequently, the dehydrated method of packaging is used where the object is surrounded by a moisture vapor barrier. This barrier may be aluminum foil laminated to cloth, with the addition of plastic components. It is heat sealed to keep out all forms of moisture and dirt—but before this is done, prescribed amounts of desiccant (a dehydrating agent) are included in the package to absorb any moisture left inside. Then, additional packing is applied.

The products discussed thus far have been those of the so-called heavy industries. Also of paramount importance in any military operation are

foods. Aluminum has been extensively used to insure the safe arrival of foods to the Korean area. Once again, the packaging offered takes the form of aluminum foil laminated to Kraft paper with a heat-sealable surface.

An example of this type of packaging is the accessory packet, a small packet designed to fit in the pocket of the uniform and carry items like cigarettes, candy, chewing gum, etc. Complete rations are packaged in this type of specification after having been placed in boxes or in aluminum foil cloth.

Other aluminum-packaged items used in Korea include individual servings of coffee, dehydrated soups or powdered milk in one-portion packages made of aluminum foil laminated to acetate or other plastic film. These individual portions are automatically packed.

Military Specifications

The present flexible packaging materials manufactured today are excellent, but occasional failure results from improper application in the field.

In other words, the person who actually uses them in the packaging operation often destroys their performance capabilities through improper heat sealing, rough handling prior to use, or improper storage. The military services are doing all within their power to correctly educate everybody concerned with packaging. However, this is a superhuman project because it concerns people throughout the country at all levels of industry, from management to labor.

Manufacturers of packaging materials have an excellent opportunity, perhaps an obligation, to assist in this military educational undertaking. Everyone concerned with military packaging should take extreme care to be certain they know how to properly use military packaging materials.

It is the intention of the military services to place more emphasis on the proper methods of packaging, particularly that packaging performed by manufacturers of military goods. In the past few years, the services have spent millions of dollars in repackaging goods purchased from industry.

The new basic methods specification, MIL-P-116A, which supersedes JAN-P-116 and AN-P-13A, was obviously written with this in mind.

Under this specification, the party doing the packaging is given a good, understandable explanation of all the steps involved. He is, furthermore, permitted quite a few options as to method of cleaning, drying, preservation and packaging which may relieve him of the necessity of buying additional equipment to package his product.

This specification, however, does not contain any "how to do it" instructions. This information must be obtained from the manual "Preservation, Packaging, and Packing of Military Supplies and Equipment" and MIL-STD-129. The first of these explains all phases of preservation, packaging and packing, and the second explains marking and identification.

All three of these publications are very easy to understand, and the services are to be commended for the improvement over old specifications. With these three basic tools, the manufacturer is equipped to do a good job of packaging at no loss of profit and without needless expenditure of taxpayers' money.



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NOW! FASTER ... STRONGER • **Carton Packaging**

With the new

DERBY Sealer

MODEL 32-T

Gummed TAPE DISPENSER

**Especially Designed For
Tough Filament
Carton Tapes**



TAPE STRAPS
GLASKRAFT
FIBREEN*
SNAKE TAPE*
GLASPUN*
SEAL STRAP*

The Model 32-T takes tough carton tapes in its stride! Equipped with an extra sharp, heavy duty, tool steel cut-off blade, this fine machine dispenses such tough, rugged tapes as "Tape-Strap," "Glaskraft" and "Snake Tape" as efficiently as it does the lighter tapes, making less work for the operator and actually stepping-up production time on carton packaging! And here's another important, carton-packaging feature! Fibrous carton tapes are put on without pressure — need only proper moistening to hold. The Model 32-T, by means of an auxiliary reservoir, maintains a high water level in the tank, reducing Capillary Lag and assuring constant moisture at the top of the brush, even when tape is dispensed at great speeds. It's the ideal dispenser for carton packaging, and it sells at such a low, low price!

*These are trade names used by various manufacturers to describe their filament imbedded tapes.

**DERBY SEALER FEATURES THAT MAKE THE
MODEL 32-T THE FINEST MACHINE OF ITS KIND!**

- Heavy duty, extra sharp cut-off blade
- One-piece solid castings for extra rigidity
- Easy pull handle to reduce operator fatigue
- Delivers from 4 to 34 inches at one stroke
- Auxiliary Water Reservoir
- Accommodates any tape from 1" to 3" wide

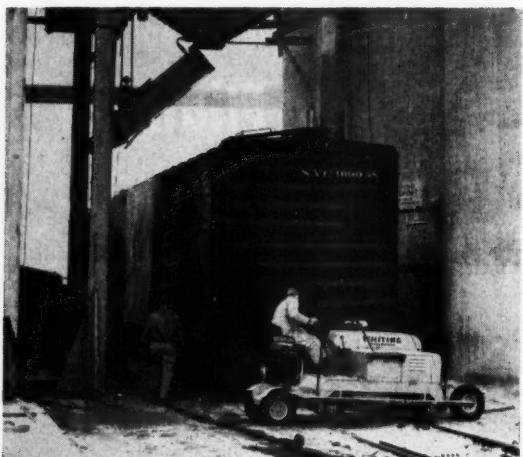
DERBY SEALERS, INC.
Designers and Builders of Derby Sealers and
Grip-A-Tab Pressure Sensitive Tape Dispensers
DERBY, CONNECTICUT

Circle No. 74 on Reader Service Card for more information

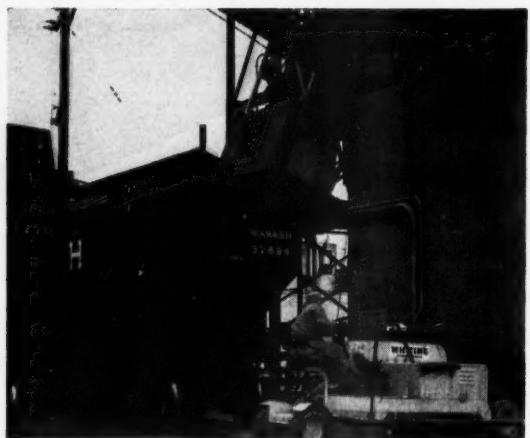
Simplified Freight



1. EMPTY CARS have been brought to the loading zone under elevators, first car spotted under the loading spout. In spite of the close clearance between elevators, positioning is done quickly and easily.



2. AFTER SPOTTING cars, the car mover switches to road wheel operation and travels around the elevator to rear of cars. Here, the operator lowers track wheels again and couples onto rear of cars.



3. LOADED CARS are moved out to spur track. Total load now amounts to 160 tons. After spotting cars on spur, car mover moves to a crossing, changes to road wheels, and returns to elevator.

—AT THE GRAIN ELEVATOR—

Right Car Moving

by Tom Anderson
Partner
Anderson Elevator Co.

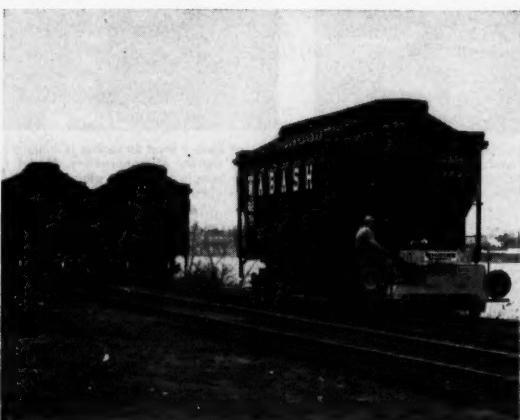
In both loading and unloading of freight cars carrying bulk materials, car handling must be virtually continuous if full efficiency is to be gained. At Anderson Elevator Co. we have been able to reduce handling time and achieve savings in manhours through use of fast moving, flexible freight car moving equipment.

Some five million bushels of grain are loaded and unloaded each year at our truck elevator in Maumee, Ohio, and at the marine terminal in Toledo. In Maumee, cars are loaded with grain at a rate of 10,000 bu. per hr. Shipment is by box car directly to users, or in covered hopper cars to the marine terminal for lake transport. At Toledo, the covered cars are unloaded for conveyor handling to ships' holds at the rate of 15,000 bu. per hr.

Faster Loading at Elevators

Flexibility of the car positioner which forms the basis of the car handling system has simplified the loading cycle pattern at the truck elevator. Empty cars are moved from yard up to elevator on a track which runs directly between two elevators. The first two cars on the track are pulled into position under the loading spout by the car mover. While the first car is being loaded, the mover is uncoupled,

Turn The Page



4. AT THE MARINE TERMINAL, two loading tracks can be utilized at once. Here, a loaded car is being moved to a pit where it will be dumped onto a conveyor belt leading to hold of ship.



5. UNLOADING TWO CARS at the same time saves considerable time. Grain enters ship's hold at rate of 15,000 bu. per hr. Traveling to rear of unloading car, mover prepares to bring more full ones.



6. DOUBLE DUTY is being performed here by the mover. Car at right is empty and car at left is full. As loaded car is pulled, empty one is pushed away by special bumper device mounted on front of mover.

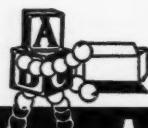
—AT THE MARINE DEPOT—

Circle No. 75 on Reader Service Card for more information



CAN BE MADE
PORTABLE
IF DESIRED

THE NEW A-B-C Junior CASE SEALER



A-B-C PACKAGING MACHINE CORP.
QUINCY, ILLINOIS

The A-B-C Junior Case Sealer automatically seals corrugated shipping containers in only a fraction of the floor space ordinarily required. Operation is fast—trouble free—economical. A completely new flight chain construction virtually eliminates carton jamming . . . Three semi-automatic models are available to fit most case sizes. Write today for details and floor plans.

shifted to road wheel operation and driven around the elevator to the other end of the cars. There, it is moved onto the track and coupled to the rear of the cars.

After the first car has been filled, it moves both cars forward and the second car is loaded. With this completed, the two loaded cars are pushed out to the spur, (total load, 160 lb.) After spotting the loaded cars, the car mover is uncoupled and returned on track wheels to a crossing where again it is shifted to road wheel operation. Meanwhile, two other empty cars have been spotted in place by a mechanical puller.

Faster Ship Loading

The car positioner serves with even greater efficiency at the marine terminal. This operation involves moving, spotting and pushing the covered hopper cars over the pit into which the grain is dumped for conveyor transfer to the ship's hold. In the past, only one track could be used at a time for this operation. Now, two tracks are used. Grain goes into the ship at the rate of 15,000 bu. per hr.

When the car mover is set on tracks, it couples to any standard railway car as is shown here at Anderson Elevator Co. Mated couplers which are hydraulically raised, transfer part of the car's weight onto the moving device making possible a maximum drawbar pull of 7350 lb. Hydraulic jacking is used to raise and lower the rubber-tired road wheels when the unit is shifted to road operation.

What is most important in your tying operations?

SPEED?
 STRENGTH?

PROTECTION?
 VERSATILITY?

SAFETY?
 PACKAGING?

BUNDLING?
 PALLETIZING?

SIZE?
 SHAPE?

WEIGHT?
 COST?

GERRARD STEEL STRAPPING offers you every advantage!

• Gerrard Round Steel Strapping offers you the widest possible combination of factors to improve your tying operations . . . and it costs about 40% less than any other type of metal reinforcement.

Call a Gerrard engineer. Let him demonstrate how and why the Gerrard Method of Strapping can help you cut the cost of your tying, packaging or bundling procedures. Out of his wide experience will come the solution to your problem . . . and his advice and assistance are available to you free of charge.

GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL COMPANY
2937 WEST 47th ST., CHICAGO 32, ILL.

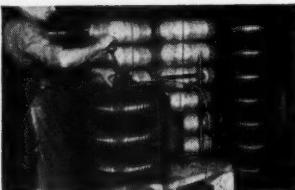


Unit bundling of separate cartons with Gerrard Steel Strapping eliminates cost of master carton, makes handling easier, provides secure protection, lowers transportation rates.
→

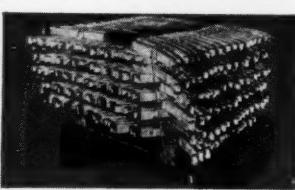
3-Decker Palletized loads of 36 odd-shaped castings. Excellent examples of Gerrard method solving difficult handling, storage and shipping problems. Photo: International Harvester Co., Industrial Power Division.



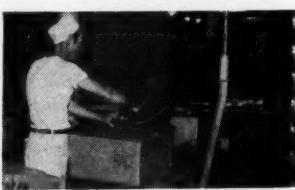
Model Q, semi-automatic . . . tensions, ties, cuts strapping and resets itself . . . all in one operation. Bundling of shingles (above), cartons, newspapers and extra-sized packages proceeds rapidly, 12 to 15 ties per minute.



Gerrard Round Steel Strapping is adaptable to a wide variety of applications. Model TE is used to bundle stove pipe elbows into a firm, neat package that is easy to handle.



Auto springs might be awkward to handle, but Gerrard-strapped to wooden skids, they make an easily transported pallet. Sturdy galvanized Gerrard Round Steel Strapping holds springs and skids securely.



TE Machine, on bakery conveyor line, is on suspension arm over plate that closes carton flaps. Operator just drapes strapping, then tensions, ties and cuts it in one machine-operation.



U-S-S GERRARD ROUND STEEL STRAPPING

UNITED STATES STEEL

Spongex Packaging Laboratory cuts packing costs 42%

TEXLITE®

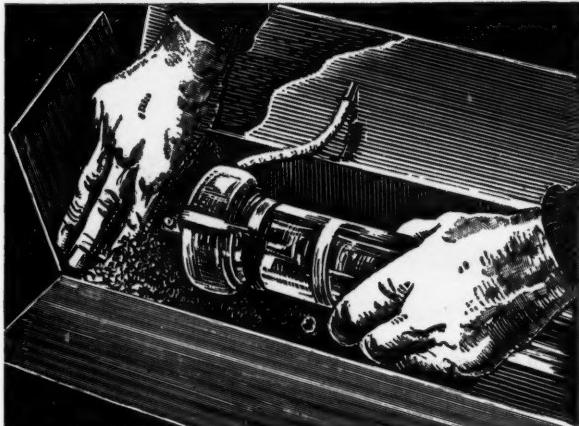
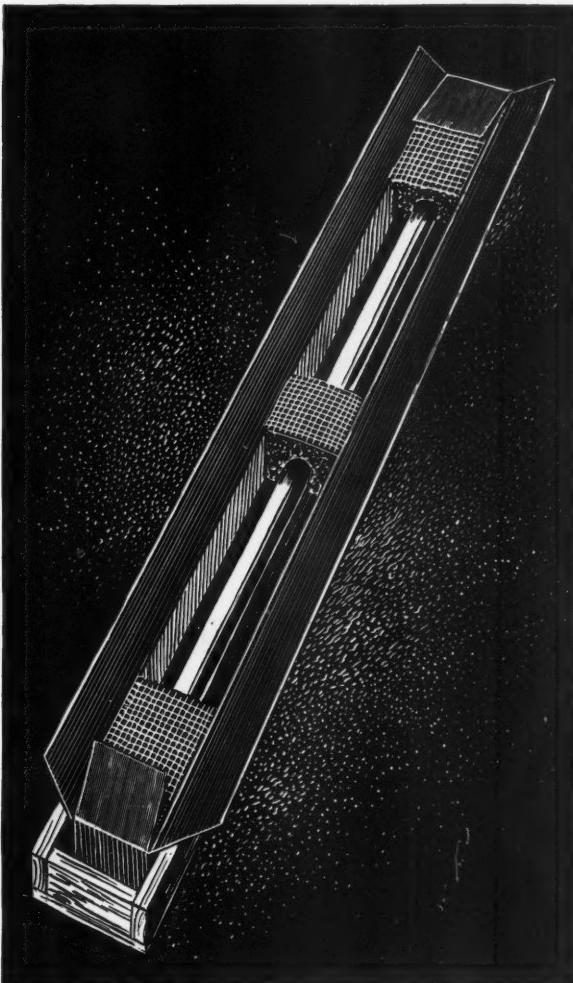
cushions \$250 lamp for Paragon-Revolute

Shown here is the new packing method developed by the Spongex Packaging Laboratory for Paragon-Revolute Corporation of Rochester. This method simplified packing procedure and reduced packing costs from \$3.12 to \$1.79 per lamp, a saving of \$1.33 per package.

Two 6" x 6" die-cut Texlite rubberized curled hair pads are at each end of the carton with three pads arranged along the bottom, cradling the lamp on a three-point bed.

Like the bottom pads, the top Texlite pads embrace half the circumference of the lamp, completing the cushion pack. The "grip" afforded by Texlite's resilience prevents shifting and holds the lamp in springy suspension.

To eliminate breakage of fragile products in transit, Spongex Packaging Laboratory has designed highly specialized equipment that analyzes and prescribes packing requirements. We don't guarantee to save you \$1.33 per package, but we'll be glad to help you with any packing problems you may have.



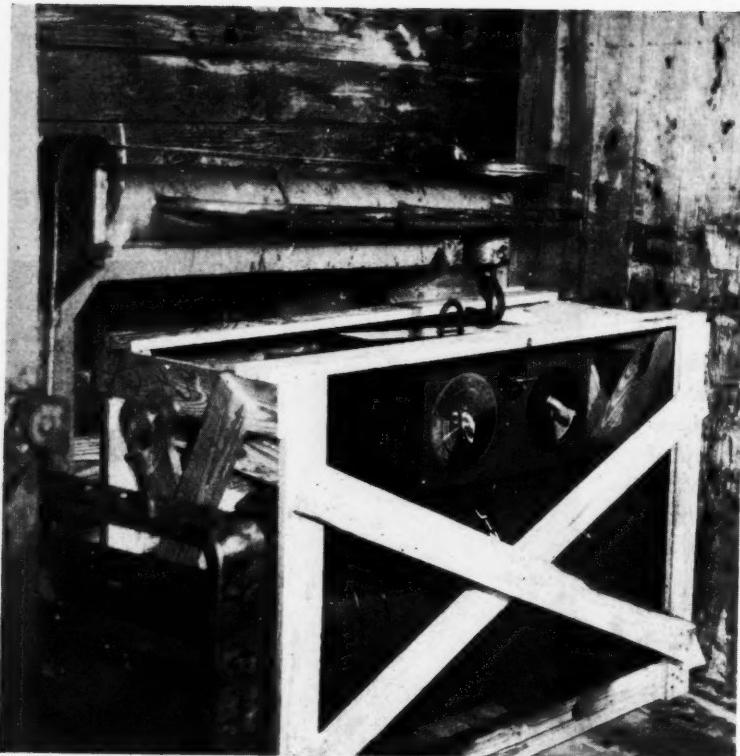
Spongex products available for protective packaging:

- **TEXLITE** rubberized hair and/or wool
- **SPONGEX** cellular rubber
- **TEXFOAM** latex foam rubber

For better package cushioning use



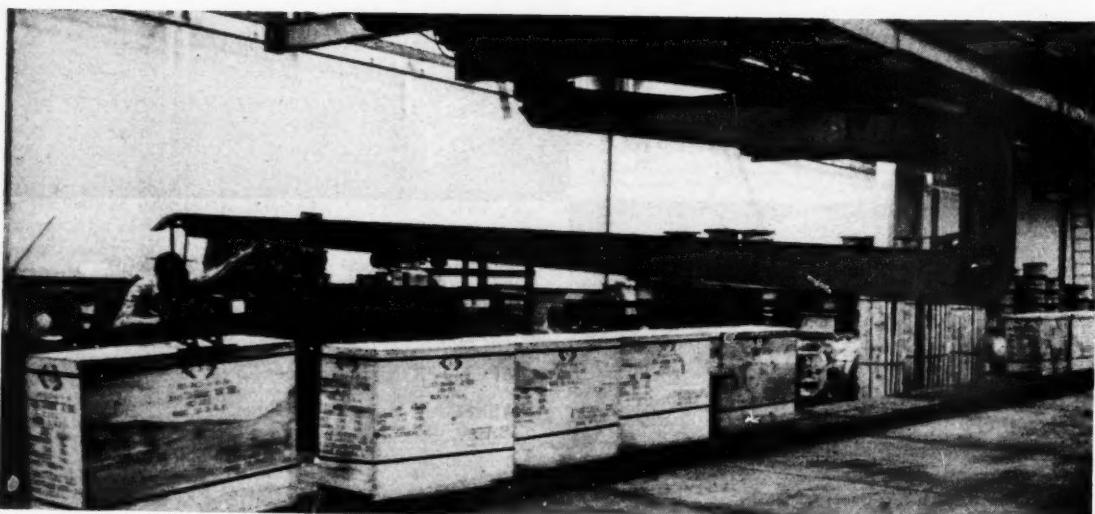
THE SPONGE RUBBER PRODUCTS CO.
584 Derby Place, Shelton, Conn.



Left—Boom attachment designed for use on fork truck. Series of pulleys permits operator to control rotation of welder suspended from hook at end of boom. Also, when picking up unit, permits turning hook until it fits into lug mounted on top of machine.

Right—Rotation of crated welding machines while moving along aisles is through use of crank. Rotation of 360° in either direction is possible. As a result, greater speeds of transportation to shipping docks are now possible than ever before.

Can These Devices Speed Your Shipping?

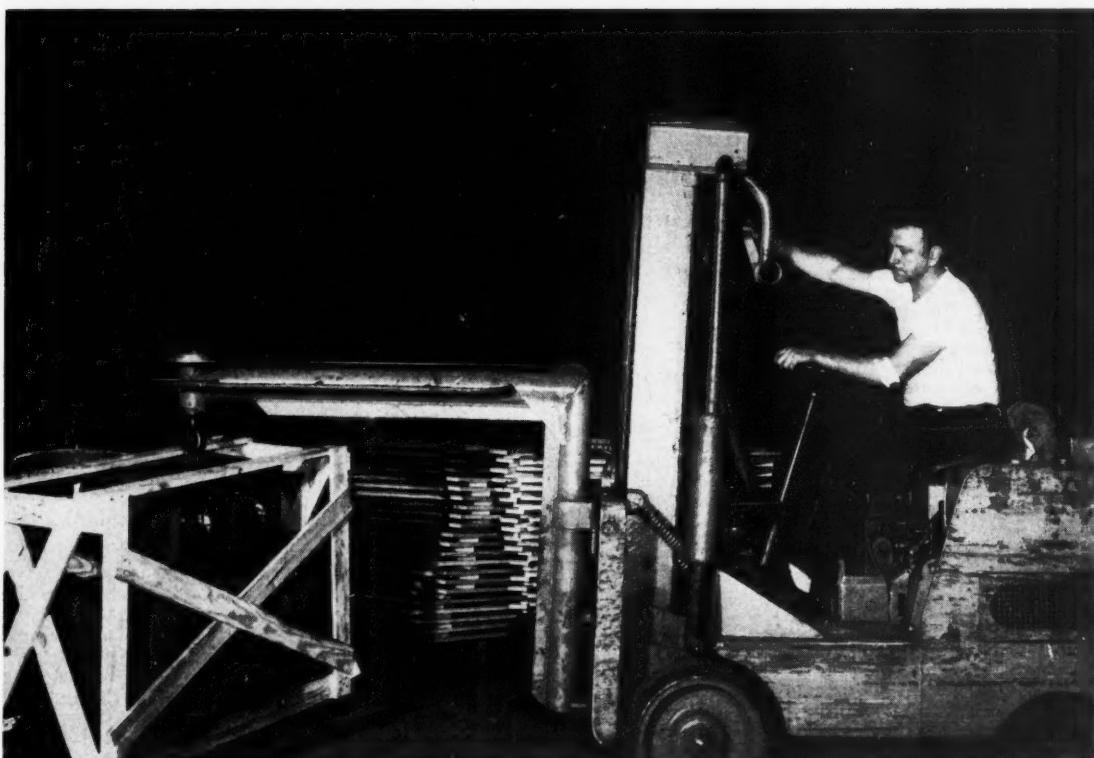


Giant hairpin hook with a built-in hoist is used for loading highway carriers. It is designed to reach into the noses of even the longest truck bodies. Lateral move-

ment for turning corners during movement, and for loading and unloading operations is provided by a six-ft. traveling beam. Motivated by two standard monorail tractors.

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Here's What They Did For Lincoln Electric

Hundreds of welding machines are shipped daily by Lincoln Electric Co., Cleveland, Ohio. The units vary in weight from 150 lb., to 4000 lb., presenting some serious problems involving both excess time and the hazard of undue physical effort on the part of shipping personnel. The welders are shipped via two types of carrier, box cars, and highway carriers. The two devices which this company developed have resulted in increased loading speed, lowered costs, and greater safety.

Box Car Loading

Cost savings of over 50% in loading welders into box cars have been realized through the use of a boom attachment for a fork truck. Mounted on the back plate of the truck, it consists of double strength pipe about eight in. in diameter. Bracing at necessary points gives additional strength.

A series of pulleys permits the operator to control rotation of a hook suspended from the boom. By turning a crank which can be reached from his seat, he can rotate the hook through 360°.

Highway Truck Loading

For loading highway trucks, Lincoln designed and built a giant hairpin hook with a built-in hoist. Its carrying

beam, 26'6" in length, was designed to reach into the noses of the longest trailer bodies. After studying all truck bodies the device might conceivably be required to enter, the designers decided on a clearance of three ft. between the two parallel beams.

The lower 26'6" carrying beam has an inside length of 25 ft. The comparable dimensions of the upper beam are 18'6", and 17'. The electric hoist is mounted in the upper part of the vertical member which is 18 in. wide. Total weight of the unit is about 2500 lb.

The hook travels on a monorail in a three-point suspension arrangement. The heel is supported by a four-wheel trolley which rides a traveling beam. The beam bridge, in turn, rides the main monorail track on an eight-wheel trolley. The length of the traveling beam is approximately six ft. and allows the front end to swing laterally as the hook passes a 90° turn through a doorway. This lateral movement is also necessary in loading and unloading.

Motivating power is supplied by two standard monorail tractors. Lifting and lowering is accomplished by the electric hoist mounted in the vertical section of the loader. Its running tackle travels through the lower beam over a series of rollers. The hoist is controlled by a lever which is located on the side of the lower beam near the front.

Circle No. 78 on Reader Service Card for more information



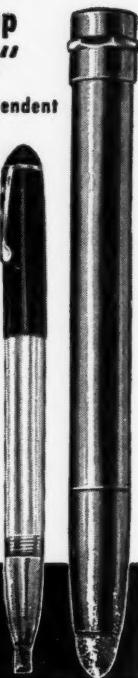
"Marking Parts in COLOR has speeded up our Production"

—writes a Plant Superintendent

And that's where the Flo-master Felt Tip Marker comes in. The complete range of colored Flo-master Inks permits detailed and accurate identification for assembling, stocking, inspecting. And the Flo-master Felt Tip just glides over any surface—metal, wood, plastic, etc. with fine lines or BIG BOLD lines. Flo-master semi-opaque inks—waterproof, non-smudging, fast-drying—are recommended for dark, hard-to-mark surfaces using the KING SIZE Flo-master. For light colored surfaces use Transparent Inks with POCKET SIZE Flo-master.

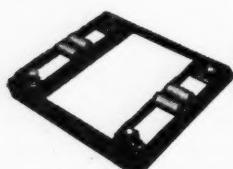
This versatile marker is also ideal for marking shipping cartons, boxes, making posters, graphs, sketches.

Contact your supplier or write direct to Cushman & Denison Mfg. Co., Dept. F-3, 153 W. 23rd St., N.Y. 11.

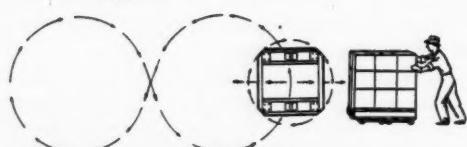


Flo-master FELT-TIP MARKER

ANY OLD DIRECTION



Who cares?



ACE "SWIVEL" PALLET ROLLERS

Moves pallet loads easily, in any direction, safely and with maximum employee efficiency—Time and field proven. Write for Engineering Bulletin No. 104.

PATENTS PENDING

DISTRIBUTORSHIPS AVAILABLE

FRANK L. ROBINSON COMPANY
MANUFACTURERS

LATHAM SQUARE BLDG. • OAKLAND 12, CALIF.

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PACKAGING AND SHIPPING NEW PRODUCTS . . .

(Continued from page 101)

Insulated Corrugated Container—Owens-Corning Fiberglas Corp.

Owens-Corning Fiberglas Corp. reports the development of a low cost, light weight, Fiberglas-insulated corrugated



container in which frozen foods may be carried safely up to 12 hours, without refrigeration. The container is known as the Transafe. It consists of a standard slotted corrugated container whose top, bottom, sides and ends contain one-inch thick

insulation and liners may be used over and over, even after the outer carton has been worn, merely by inserting in new carton.

Circle No. 187 on Reader Service Card for more information

Paper Board Box—Gaylord Container Corp.

A paperboard box developed by Gaylord Container Corp. in cooperation with United Air Lines is said to give protection to airborne shipments of cut flowers. The new box is extra sturdy at points where studies have shown stress most often occurs. It has lengthwise corrugations that provide maximum longitudinal rigidity. Solid fibre cleats midway in the body keep stems in place, add to vertical stability and reinforce the center of the lid.

Circle No. 188 on Reader Service Card for more information

Box Framer—Food Machinery and Chemical Corp.

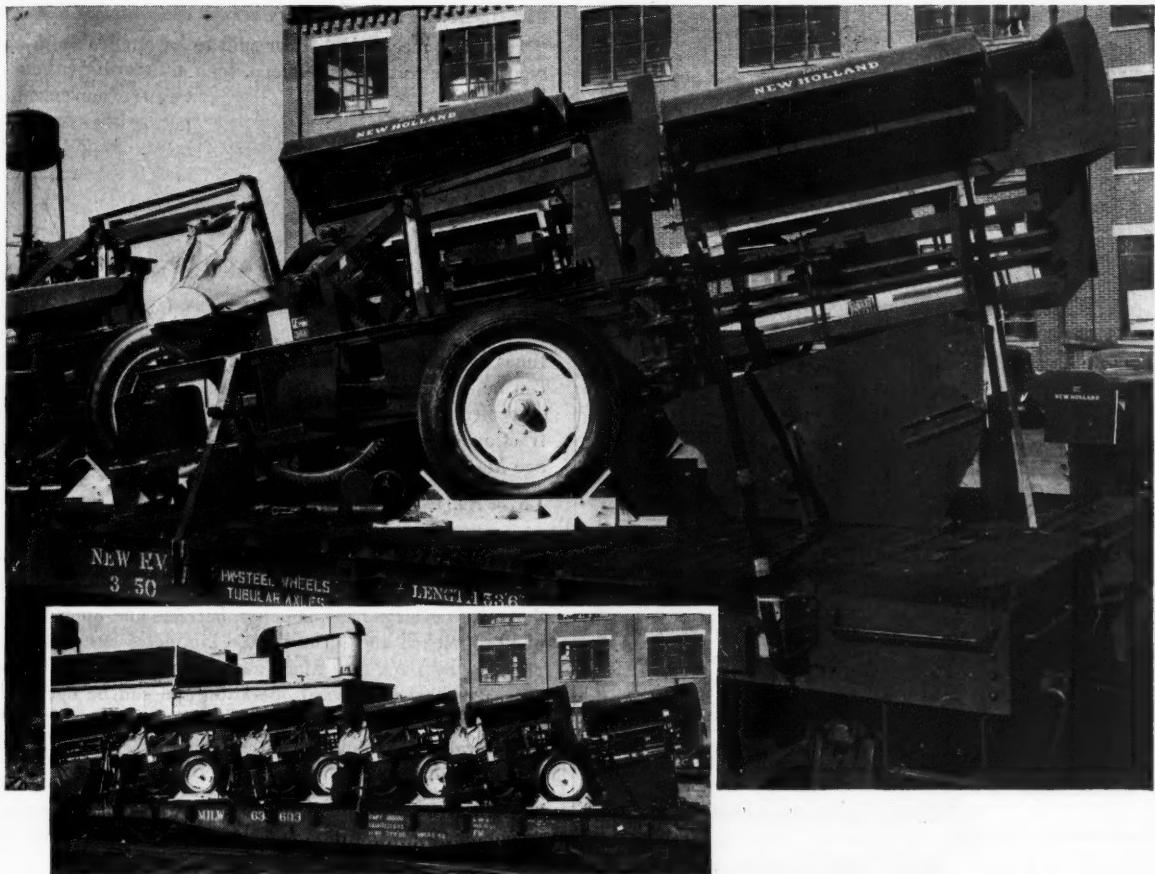
A minimum of changeover time is required to adjust the FMC Industrial Box Framer for various box sizes.



Three nailing strokes are all that are needed to frame a box. Sides are end nailed in one stroke each, and the bottom is both end nailed and edge nailed in a rectangular pattern on the third nailing stroke. Up to 48 nails can be driven per stroke, according to the manufacturer, Food

Machinery and Chemical Corp. The machine will frame any box within the range of 19½ in. to 50 in. long x nine in. to 26 in. in cross section. Maximum size box, 26"x26"x50" can be framed at the rate of 50 to 60 per hr, smaller sizes as fast as 125 per hr.

Circle No. 189 on Reader Service Card for more information



NEW HOLLAND MACHINE COMPANY

"trims hours and dollars from
old loading schedule with **Stanley Car Banding**"

From the New Holland Machine Co., New Holland, Penn., manufacturers of farm machinery, comes another success story for Stanley Car Banding.

Mr. J. Paul Kochel, Transportation Mgr. says, "We switched from loading our hay balers in box cars to shipping them on flat cars secured with Stanley Car Banding. With this new method we saved approximately 2 man-hours in loading each baler, and in addition, saved sufficient space to permit another baler to be shipped aboard each flat car, thus increasing our savings per car." He adds,

"In our four years of experience with Stanley Car Banding, it has proved very satisfactory on every application."

More and more shippers, faced with widely varying problems, have made important savings in time and labor with the help of a Stanley Representative — a specialist in Steel Strapping and Car Banding Systems. Let him help you. Just mail the coupon. The Stanley Works, Steel Strapping Div., New Britain, Conn. Branch Offices or Representatives in 32 principal cities.

Invite the Stanley Man to call

STEEL STRAPPING AND CAR BANDING SYSTEMS

STANLEY

Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL
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The Stanley Works, Steel Strapping Division
202 Lake Street, New Britain, Conn.

Please ask your representative to call and explain
the advantages of the Stanley Steel Strapping
System to me.

Name _____

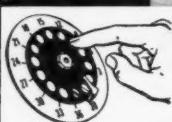
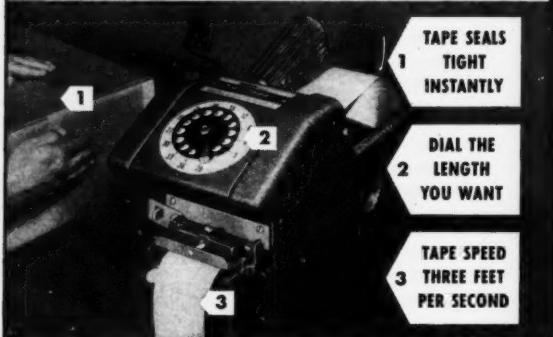
Firm Name _____

Street _____

City _____ State _____

Circle No. 67 on Reader Service Card for more information

NOW—Marsh Saves You 20% on GUMMED TAPE SEALING COSTS!



Means New Speed, Better Packaging in Your Shipping Department

Users report 20% saving in tape, 50% saving in time, stronger seals and neater packages. Handles tape 1" to 3" wide. Rugged construction. Weight 50 lbs. 110 Volt, 60 Cycle, A.C. Savings soon pay for it. FREE DEMONSTRATION ON YOUR OWN WORK • WRITE FOR BULLETIN DT AND PRICES

MARSH STENCIL
MACHINE COMPANY
67 Marsh Bldg.
Belleville, Ill., U.S.A.
DMS

MARSH Electric
Dial-Taper

Mechanical Timer—Rapp Package Machinery Co.

Here is a mechanical timer said to be applicable to all types of intermittent operations, such as intermittent conveyor movements, packaging equipment, liquid flow measurements, etc.

It can be adjusted to vary the movement operation or dwell period from minimum to a maximum of $2\frac{1}{2}$ to three times minimum by simply turning a small knob. The unit can be supplied in a variety of sizes, depending upon requirements. It operates on 100 volt ac current with a small fractional horsepower motor. Manufacturer is Rapp Package Machinery Co.

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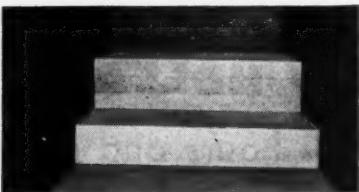
Hand Rotary Sealer—Pack-Rite Machines

A hand rotary sealer primarily for military packaging that requires large bags, pouches, barriers and inner-liners of kraft-backed and scrim-backed laminates has been announced by Pack-Rite Machines. The sealer makes seals with a once-over forward operation and can be operated at a speed of about 30 ft. per min. It weighs five lb., and has overall dimensions of $10\frac{1}{2}$ in. long, four in. wide, and six in. high.

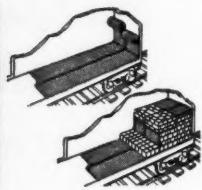
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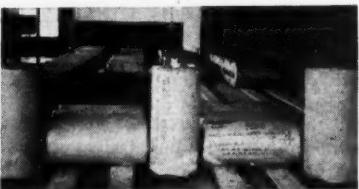
PROTECTS METAL SHIPMENTS



UNITIZED LOADING PROTECTS CARTON SHIPMENTS



PROTECTS FURNITURE



PROTECTS TEXTILES



COMPLETE PROTECTIVE PACKAGING USE FIBREEN

FIBREEN takes the headaches out of your packaging problems because:

IT'S TOUGH, STRONG: Rugged FIBREEN is reinforced with tough, closely cross-laid fibres of steel-like strength, to avoid rips, cracks, punctures.

IT'S MOISTURE-PROOF: Double layers of highest quality, waterproof, pliable adhesive prevent moisture penetration.

IT'S CLEAN: Both top and bottom sheets are surface-treated top-grade No. 1 kraft . . . dust-tight . . . protect

products from dirt and stains in transit or storage.

IT'S ECONOMICAL: FIBREEN is easy to handle. It is flexible, it forms readily around product contours. Saves time, labor; reduces damage claims.

FIBREEN has solved many protective packaging problems, in a wide variety of industries, at low cost. Try FIBREEN!

FIBREEN is available in practical roll widths of 36", 48", 60", 72", 84" and 96" . . . also in a new non-asphaltic adhesive.

For free samples and packaging information, write Dept. F7

THE SISALKRAFT CO., 205 W. Wacker Drive, Chicago 6, Illinois

FIBREEN IS A PRODUCT OF THE SISALKRAFT CO. • CHICAGO 6 • NEW YORK 17 • SAN FRANCISCO 5

Circle No. 82 on Reader Service Card for more information

One-Piece Retaining Doors—Signode Steel Strapping Co.

If you ship any loose bulk material like soda ash, silica, phosphate, potash, etc., in box cars, it will pay you to investigate Signode one-piece retaining doors. These barricades are prefabricated of strapping and heavy liner board by Signode Steel Strapping Co., and are delivered to you ready for use. It is claimed that one man can cooper a car with these doors. There is no cutting or assembling to do—with no fitting of multiple pieces, and no need to face or line the freight car doors. Average weight of the barricades is 10 lb. each.

Circle No. 192 on Reader Service Card for more information

Multiple Spout Filling Heads—Scientific Filter Co.

For applications where greater output in filling standard size bottles or cans is desired, Scientific Filter Co. has developed adjustable four and six spout filling heads. It is claimed that with these filling heads, vials can be filled in trays or in shipping cartons eliminating further handling. Circle No. 193 on Reader Service Card for more information



Yes... "George" is almost automatic. The long handle provides the leverage to glide the heavy tote boxes over the bevel edge of the truck chassis... the hook being inserted in the box handle (or hole). Boxes are held firmly on an upper set of rollers... the lower set rolls the truck to its destination... easily, safely. No dangerous lifting, no strains.

Small plants can use one, large plants many. Reasonably priced, long service life.

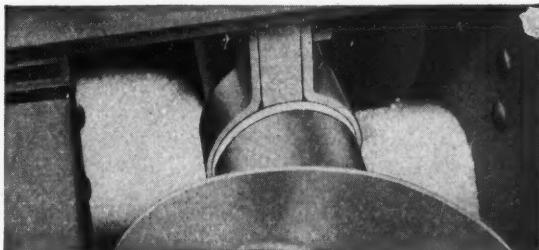
Send for Bulletin F.



Write for free Folder L
ROLOCK Incorporated
Fairfield, Connecticut

2RG52

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FLOW • JULY, 1952



ARGUTO *Maintenance-Free* **SCREW CONVEYOR BEARINGS**

1. No Lubrication — ever

Arguto bearings are self-lubricating for life of bearing. This means no maintenance.

2. Abrasion Resistance

Arguto bearings handle coke, cement, and cocoa as readily as cotton-seed meal, coal, and carbon black.

3. Silent Operation — No Squeal

Run full capacity at top speed — you can't make Arguto bearings squeal.

4. No Contamination—No Drip

Arguto bearings produce their own lubricating film. There is never any excess oil, so are used for grains, sugar, and many other foods and chemicals where purity is essential.

5. "Out of sight — out of mind"

You can install Arguto bearings even in hard to get at inaccessible places and forget them for years.

6. Easy to install

Just slip bearing into the hanger and tighten the strap or U bolt. That's all. Trough end bearings also available.

7. Easy to order

Five minutes with Arguto Catalog #210 and you can place your order—or send sample bearing identified with your name, address, etc. Quick delivery.

ARGUTO CATALOG #210 is your reference book to eliminate screw conveyor bearing trouble. Also contains complete section on Arguto Conveyor Roll Bearings and Engineering Data.

**Write today for
Catalog #210**

**Bearing orders will
be filled promptly.**

ARGUTO OILLESS BEARING CO.

149 BERKLEY STREET
PHILADELPHIA 44, PA.

20
years



without
a drink

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VERSAVEYOR

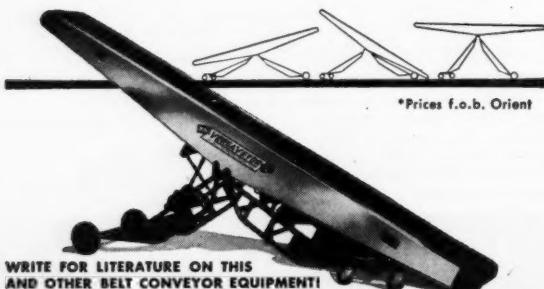
LOW-PRICED*. A 13-ft. unit without either undercarriage \$343; add \$80 for wheel undercarriage, \$93 for caster undercarriage. (See photo below.)

LIGHT-WEIGHT. Whether it's a 13, 15, 17 or 19-ft. length, the Versaveyor is easy to handle 'most anywhere. For example, the 13-ft. unit without undercarriages weighs only 150 lbs.

EASY-TO-HANDLE. From a horizontal low of 22 in. to a height at either end of 9 to 14 ft. (45-degree angle), the Versaveyor is safe and stable. Unit load, 150 lbs.; distributed load, 300 lbs.

WELL-BUILT. Box-type frame; heat-treated aluminum alloy.

MANY USES. Out of box cars to gravity conveyors. Into trucks. Up to second floors. Flat on stairways. Will pass through 30-in.-wide door with undercarriages attached. Has 12-in.-wide belt.



*Prices f.o.b. Orient

WRITE FOR LITERATURE ON THIS
AND OTHER BELT CONVEYOR EQUIPMENT!

THE BELT CORPORATION

7406 STAHL ROAD

ORIENT, OHIO

Circle No. 85 on Reader Service Card for more information

122

Material Handling New Products (Continued from page 34)

Vibrating Conveyor—Carrier Conveyor Corp.

Natural frequency vibration is said to be the secret of success of this conveyor made by the Carrier Conveyor Corp. According to reports from the manufacturer, the conveyor operates at the exact natural frequency of the springs on which it is mounted, thereby reducing power required for operation. It requires $\frac{1}{4}$ h.p. per 25 tons conveyed for each ten ft. of level length.



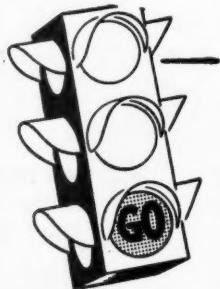
Advantages claimed for the conveyor include: high conveying speed; low maintenance; no slow-down or dampening under; high capacity.

Circle No. 164 on Reader Service Card for more information

Motion Picture Equipment—Bell & Howell Co.

New avenues to savings can be opened in almost any plant through careful study of each manufacturing step and the material handling methods in use. Motion picture equipment made by Bell & Howell Co. has been used in plants to trace the path of a product from the raw material

**TRAFFIC
NEVER
STOPS**



when you repair your
floors with PERMAMIX.

Easy to apply—sets instantly—long wearing for year around use indoors or out—WILL NOT FREEZE—can be stored indefinitely and used in any temperature—lowers maintenance costs amazingly.

Here's all you do: Clean hole in any type floor, spread primer supplied in drum, fill in with PERMAMIX, tamp and dust with cement or floor dust, resume traffic immediately. It's that easy, for PERMAMIX feather edges and no cutting or chipping is required. No skilled labor is necessary, you need no special equipment, you have no mixing, waiting or production delays when you repair or patch your floors the easy, fast PERMAMIX way. Comes in handy, durable 50 lb. net weight drums.



Write or
call for
full details

PERMA Mix
PERMAMIX CORPORATION

226 N. La Salle St.

Cent. 6-1785

Chicago 1, Illinois

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JULY, 1952 • FLOW

stages to its finished form, packaged and ready for shipment. Now able to see each operation in a perspective never before possible, supervisory personnel can revise methods, and eliminate useless motions.

Circle No. 165 on Reader Service Card for more information

Rubber Dock Bumper—Durable Mat Co.

Damage to docks, trucks, and freight can be reduced greatly through the use of these rubber bumpers made



by Durable Mat Co., it is said. The manufacturer claims that the bumpers are resilient and shock absorbing, will not freeze, (ice shales off on slight impact), and that they re-

quire no facing or covering, thus eliminating upkeep problems. Durable reports that in most cases, savings realized from the bumpers will pay for them in about one year. Formerly used on tugboats, bumpers in use for 15 years, are still in good shape.

Circle No. 166 on Reader Service Card for more information

Fortified Lubricating Oil—Shell Oil Co.

A combination of additives in Shell Rimula Oil is said to substantially extend the serviceable life of industrial

Cambridge Gripper Slings STRONGER SAFER for any lifting job!



STRONGER—because their spiral wire loop construction provides a wide bearing surface and greater gripping power around the load. In a basket hitch, shown here, you get the benefit of the Gripper Sling's maximum strength. A noose hitch gives greatest gripping power.

SAFER—because the Gripper Sling fabric will not break suddenly. Individual broken wires are not buried within a core, are immediately visible when broken. The sling may continue in use even after several wires are broken since the body of the sling absorbs the slack from individual breaks.

Investigate Gripper Slings today and see for yourself how they make any lifting job easier and safer. See your distributor or write direct for literature and technical data. Gripper Slings are sold through industrial supply, safety equipment and materials handling jobbers.



The Cambridge Wire Cloth Co.

WIRE
CLOTH

METAL
CONVEYOR
BELTS

SPECIAL
METAL
FABRICATIONS

Department W
Cambridge 7, Md.

DISTRIBUTORS—ASK ABOUT VALUABLE TERRITORIES STILL OPEN!

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Quick and Convenient Materials Handling

PORTABLE
FLEXIBLE
ECONOMICAL

fmc ACCORDION GRAVITY CONVEYOR

Makes
Box
Handling
Easy

EXTENDS to lengths required, up to a maximum of 9½ feet.	BENDS to avoid obstructions or to conform to loading requirements.

fmc CLAMP TRUCKS

For Quick and
Easy Handling of
Boxes, Crates, Baskets and Lugs

Clamp arms with replaceable jaw tips grip containers firmly. Foot pedal controls opening and closing of clamp arms. Rugged construction, equipped with rubber-tired ball-bearing wheels. Models available for various types of box handling.



FOOD MACHINERY AND CHEMICAL CORPORATION
PACKING EQUIPMENT DIVISION
RIVERSIDE, CALIFORNIA

NM-26

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FLOW • JULY, 1952

123



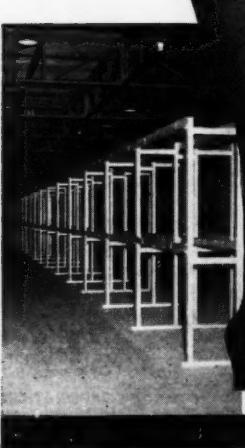
Write for our catalog of materials handling equipment.

Well Stacked!

Palletized goods is well stacked when it's stacked on strong, flexible, space conserving E. M. I. prefabricated pallet racks. They save handling time by permitting removal of low level material without disturbing that above.

**EQUIPMENT
MFG. INC.**

21552 Hoover Road
Detroit 5, Michigan



Circle No. 89 on Reader Service Card for more information
124

trucks, gasoline engines and automotive type diesel engines. According to the manufacturer, Shell Oil Co., tests have shown that the highly fortified oil cuts down engine wear from corrosion and fouling, with consequent reduction of oil consumption and frequency of costly overhauls.

Circle No. 167 on Reader Service Card for more information

Crawler-mounted Fork Truck—*American Tractor Corp.*

A crawler-mounted fork truck has been developed by American Tractor Corp. The unit is said to work well both

indoors and outdoors on all types of terrain, and in mud up to six in. deep. When equipped with rubber track shoes, it can work inside warehouses and factories. Called the Terra-Lift, the truck is available in 2000, 4000, and 6000 lb.

capacities. Three sizes of lifts are also being made: 6', 8'7", and 12'. Attachments are available to adapt the unit for use as a bulldozer, angle dozer, loader, snow plow and for various other applications in the plant and in the yard.

Circle No. 168 on Reader Service Card for more information

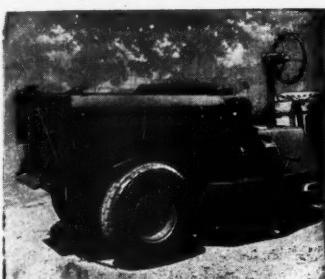
Wherever Used the SCOOT-CRETE

provides a modern and efficient method for all industrial handling jobs, both inside and outside the plant. The SCOOT-CRETE provides exceptional maneuverability with its caster steering, has large heavy-duty tires for traction to move a load over any surface. Models are available with 14-cubic-ft., 16-cubic-ft., and 20-cubic-foot capacity.

Here are two models of the SCOOT-CRETE. At the top is one unit equipped with a box body for handling bulk materials. A flat rack attachment can be interchanged with the box body for handling load units. Optional equipment, automatic clutch and continuous variable speed transmission, permitting speeds up to 15 miles per hour forward, and up to 10 miles per hour in reverse.

Economically priced, demanding minimum maintenance, capable of giving outstanding performance, investigate the SCOOT-CRETE in terms of your own operations.

Write today for complete details. There is no obligation.



Carrying Capacity 3000 lbs.



Carrying Capacity 2000 lbs.
Box Capacity, 8 cubic feet.

GETMAN BROTHERS
MANUFACTURING DIVISION

South Haven, Michigan • Office Phone 937
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JULY, 1952 • FLOW

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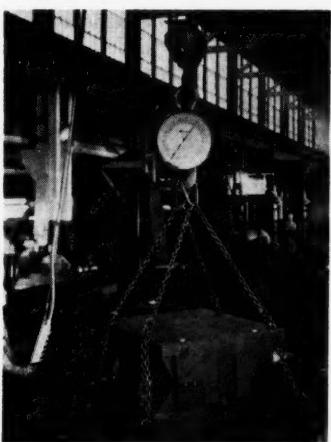
S

• 937
formation
FLOW

Crane Scale—Hydroway Scales, Inc.

The Hydroscale is said to automatically weigh a load as it is lifted, making weight checking routine where it has previously been impractical due to the time and trouble involved. It permits operator of crane to observe the approach of capacity so that if necessary he can change the pitch of the boom to avoid tipping the equipment. The manufacturer claims that with this scale, loads are kept moving from one operation to the next with no intermediate point for load and manpower tie-ups. Models for any type of operation are available.

Circle No. 169 on Reader Service Card for more information



**HAVE YOU ORDERED YOUR
DIRECTORY? SEE PAGE 98**



BATTERY CHARGING INFORMATION

to help you get more efficient and reliable battery charging at lower cost. Just send in the coupon below

for these Bulletins



THE ELECTRIC PRODUCTS CO.

1730 CLARKSTONE ROAD • CLEVELAND 12, OHIO

• NAME _____
• TITLE _____
• COMPANY _____
• STREET _____
• CITY. _____ ZONE. _____ STATE. _____
X-79

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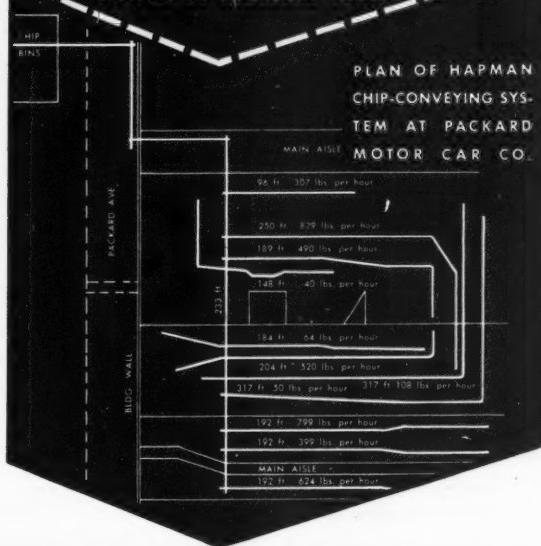
FLOW • JULY, 1952

Packard makes savings

"A MILE LONG"
with **Hapman**

TUBULAR CONVEYORS

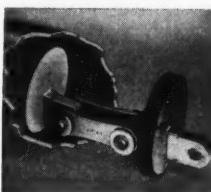
removing metal Chips from
scores of machine tools



This plant contains 5,366 feet of Hapman Conveyor, carrying chips in feeder and main lines. It's a full-scale example of advanced, cost-cutting planning — in action now!

So if cutting costs is one of your problems, you can't afford to overlook the tremendous savings possible with mechanized chip-handling!

With Hapman Tubular Sealed-pin Chain Conveyors, you remove wet or dry metal chips and dust directly from machines — and convey to storage automatically and continuously. Can you imagine the multiple savings that result?

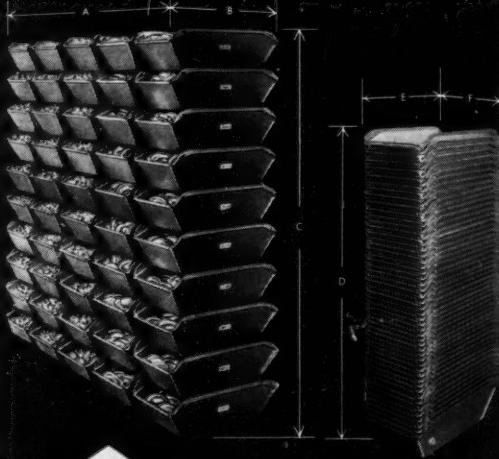


We'd like to explain how you save labor on two counts — and boost output of machine tools on two counts. Write for details — the Hapman Way is a revolutionary advance in modern cost-cutting methods! Ask for Bulletin F-752

Hapman CONVEYORS, INC.
DIVISION HAPMAN-DUTTON COMPANY
KALAMAZOO MICHIGAN

Circle No. 92 on Reader Service Card for more information

WHAT DOES IT COST YOU TO STORE **NOTHING?**



50 NESTIERS
FILLED AND TIERED

THE SAME
NUMBER NESTED

Stop and think—your present materials handling boxes take up just as much precious floor space empty as they do filled. But not Nestiers. The new modern Nestiers nest to save space!

Check the space requirements in the illustration above and then compare them with the space you now devote to the same number of filled and empty boxes. For a comparison of larger quantities, 500 No. 175 Nestiers, nested in stacks of 50, take up 13.1 sq. ft. of floor space—1,000 Nestiers in stacks of the same size use only 26.2 sq. ft. of space! Figure the big amount of space you can save with Nestiers—and remember, it's a lot cheaper to conserve the space you have than to expand it.

Nestier	A	B	C	D	E	F
#220	67½"	22¾"	67¼"	51½"	22¾"	13½"
#175	51¼"	18¼"	56½"	55"	18¼"	10¼"



Write for this brochure describing the Nestier and the Nestier System. You'll see that the space saving feature is just one of many advantages of this revolutionary materials handling box.

NESTIER
IT NESTS - IT TIERS

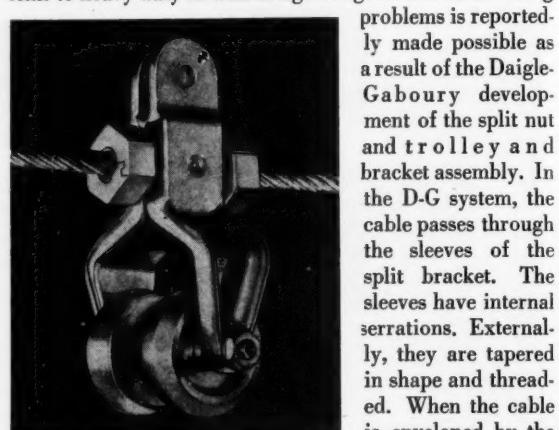
THE CHAS. WM. DOEPKE MFG. CO., Inc.
Metal Specialties Division

Rossmeyne, Ohio

Circle No. 93 on Reader Service Card for more information
126

Cable Conveyor System—Daigle-Gaboury, Inc.

Application of overhead monorail cable conveyor systems to heavy duty as well as lightweight material handling problems is reportedly made possible as a result of the Daigle-Gaboury development of the split nut and trolley and bracket assembly. In the D-G system, the cable passes through the sleeves of the split bracket. The sleeves have internal serrations. External, they are tapered in shape and threaded.



When the cable is enveloped by the bracket sleeves, the halves of the split nut are then brought together on the sleeve and turned on expanding threads of the taper. This is said to exert a 360° compression on the sleeve causing it to establish a biting hold on the cable with its internal serrations. It is stated that in this position on the cable, trolley brackets can withstand pull loads up to 10,800 lb. without slipping.

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Sturdy Portable Lift—Langley Mfg. Co.

Langley Mfg. Co. has announced the development of a portable lift with a 1000 lb. load capacity for elevating,

increase storage
capacity from
DAY...to WEEKS
with a modern

MARIETTA
STORAGE SYSTEM



A Marietta concrete storage system is the efficient, economical way to increase your "per-day" storage capacity. Marietta tanks permit you to buy and store bulk materials in large quantity to take advantage of favorable prices, meet unexpected shortages.

Tanks are constructed of Air-Cell or solid concrete slabs, can be erected in any size, any arrangement, in a matter of weeks, to give you permanent, fully protected storage for coal, coke, sand, gravel, dry chemicals . . . any bulk material that requires safe, low-cost storage.

Marietta engineers will plan, design and erect a Marietta storage system to meet your present and future plans. Tanks can be equipped with loading and unloading facilities to speed your materials handling.

Write for full details and illustrated literature.

the MARIETTA concrete corporation
MARIETTA, OHIO • BALTIMORE, MD. • CHARLOTTE, N. C.

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JULY, 1952 • FLOW

stacking, piling and racking all sorts of material. An electric model is driven by a $\frac{1}{2}$ hp reversing type motor with a drum-type controller. A battery model has a six volt electric-hydraulic drive with two automotive batteries wired in parallel.

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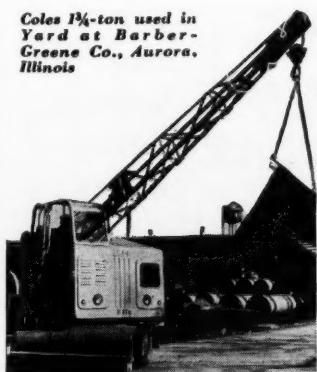
Plastic Labeling Tape—Labelon Tape Co., Inc.

Labelon plastic labeling tape is said to stick firmly without moistening to any smooth, clean surface. It strips off without scraping. According to the manufacturer, Labelon Tape Co., Inc., it won't curl or discolor with age or variations in temperature or humidity. It adheres tightly at temperatures as low as -40°F and withstands heat up to 160°F . It is also said to be smudge-proof, dirt-proof, water-proof, grease-proof, and acid-resistant. Standard colors are blue, green, black and red. Standard widths are $5/16$ in., $1/2$ in., $5/8$ in., $3/4$ in., 1 in., $1\frac{1}{2}$ in., and 2 in. Special colors and widths are available on request.



Circle No. 172 on Reader Service Card for more information

Coles $1\frac{1}{4}$ -ton used in
Yard at Barber-Greene Co., Aurora,
Illinois



*"All in all I have found it to be the
Most Versatile Piece of Equipment
for our rather cramped applications"*

Attest: James B. Iggleheart, Mgr. Warehouse Div., International Steel Company, Evansville, Ind.

THE ONLY CRANE THIS SIZE WITH FULL CIRCLE SWING!

These $1\frac{1}{4}$ -ton COLES CRANES are being used extensively for material handling, where ability to reach over the back of large piles...is important. With COLES you have exceptional maneuverability in close quarters, in or outdoors.

LITTLE CRANE DOING A BIG JOB

Yes—there's Giant Strength and a gentle touch in every COLES CRANE from $1\frac{1}{4}$ to 23 tons. Precision built to operate with smoothness and accuracy from four grouped controls all at the operator's fingertip. This Crane is also used as a maintenance tool in many plants. Write for details and name of your local distributor who will survey your plant requirements.

Box 942-F, Joliet, Ill.



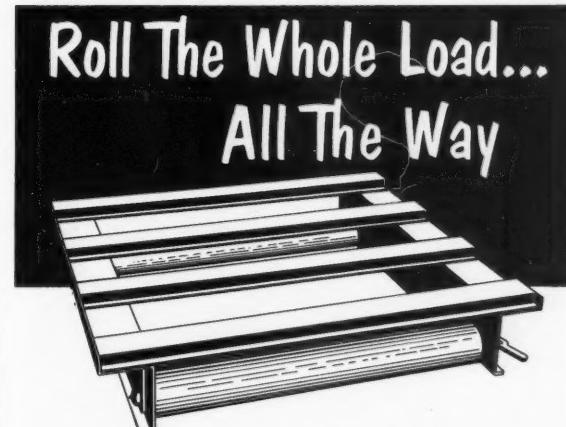
Inside warehouse
International Steel Co.,
Evansville, Indiana

COLES
CRANES
INCORPORATED



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Circle No. 96 on Reader Service Card for more information



- Heavy gauge steel frame and rollers (4" in diameter) built for long, rugged service.
- Extra-heavy, steel inserts protect against damage from overloads.
- Positive acting brake locks one roller. May be kicked off or on.
- Wide (30") rollers distribute weight evenly, straddle floor defects.
- Each Roller contains 104 oversize ball bearings. This makes pushing or pulling by one person relatively easy.

PALLET ROLLER CO.

6432 CASS AVENUE • DETROIT 2, MICH.

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WEIGH MATERIALS ON THE SPOT!

With the DILLON Weight Indicator, loads are checked on the spot as they are moved—the instant they are lifted. No need to pick materials up, move them to a scale, set them down and then pick them up again—no more double handling or high operational costs.

Accuracy is guaranteed to be within ONE division or less at any point on the dial. Adjustable for large tote loads. 16" dia. dial. Swivel hook. Accidental overload and shock protected. 8 capacities from 0-250 pounds up to 0-20,000 pounds. Portable—weather-proof—dust-proof. Each unit calibrated with certified dead weights. Extreme utility at LOW cost!

Write today for illustrated, descriptive literature.

W. C. DILLON & CO., INC.

1421-Q S. Circle Ave., Forest Park, Illinois

How Much Will Accidents Like This Cost You This Year?

Box car door opening by laborious hand operations can be... and is... dangerous and deadly!

Protect your employees with the Nolan Model H One-Man Car Door Opener... guaranteed to open the most stubborn, balky box car door in 20 seconds or less!



\$2950
F.O.B.
BOWERSTON

Fall Fatal To Worker

Man Killed in Odd Accident

[REDACTED], Lapeer County Co-Op employee, died "Monday afternoon at the Lapeer County Fair, after he fell from a box car.

[REDACTED] and [REDACTED] were trying to open a door on the car. They got it partly open and [REDACTED] climbed into the car. Pushing to open it further, he slipped and fell, his head striking a small stone.

He did [REDACTED] above news item appeared in The Lapeer County Press, Lapeer, Mich., February 7, 1958

Over 10,000 Nolan 1-man Car Door Openers now are saving time... saving money... saving lives, for all types of businesses. A few quick pulls on the NOLAN anchor chain does the job by one man. No gangs needed. No mangled limbs or loss of life from jammed or falling doors. The NOLAN saves its low initial cost in its first hour of operation. FREE CATALOG gives complete description. Order one or more NOLAN Model H Car Door Openers to meet all your needs.

THE NOLAN COMPANY
118-A Pennsylvania St. • Bowerston, Ohio

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128

Circle No. 100 on Reader Service Card for more information

Chem-Board Tote Boxes

HELP
BUILD
RADAR



Much of the radar needed to scan the skies for our country's safety is being built from materials and parts carried to production lines in Convoy Chem-Board Tote Boxes. The self-stacking boxes illustrated seal their contents from dust and light... stack to ceiling without support.

Chem-Board is made of corrugated fibre-board, chemically impregnated by Convoy's exclusive process. It is flint hard and rock strong. It is not weakened by moisture. It is impervious to machine oils. Convoy Tote Boxes cost and weigh 50% to 60% less than steel.

The lightness, toughness and economy of Chem-Board Tote Boxes are unmatched. Tell us the style you use... we'll send a free production sample from the next run for you to test. As a guide for present and future availability, our current production capacity is reserved for the unprecedented demands from old customers and "DO" orders. Orders rated DO-MRO are acceptable. Write today.

CONVOY, INC.

P.O. Station B, Box 216-F
CANTON 6, OHIO

Save time! Prevent accidents!

LIFT AND DUMP
MECHANICALLY

BAGS
BARRELS
DRUMS
BOXES

REDUCE HANDLING COSTS with a Cesco Dumper. It handles up to 100 loads per hour; has a lifting cap, ranging from 100 to 1500 lbs. Both single- and multi-purpose portable models are built in standard dumping heights from 5 to 12 ft. Stationary models up to 16 ft. dumping heights. Push button controlled. Write for catalog.

ESSEX CONVEYOR, INC.
101 Golden Street • Newark, New Jersey
COLSON EQUIPMENT & SUPPLY CO.
1317 Willow Street • Los Angeles 13, California



WRITE
FOR
CATALOG

CESCO SKIP HOIST **DUMPER**

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JULY, 1952 • FLOW

Magnesium Hand Truck—Penco Engineering Co.

Penco Engineering Co. manufactures an all-cast magnesium hand truck which weighs 15½ lbs., yet takes a 600 lb. load without stress or strain. Some features cited include: web-frame construction without rivets or bolts; ball bearing wheels with solid rubber or zero-pressure tires; one or two pistol-grip handles; cast-on stair climbers; wheel guards; beveled wedge nose plate. The hand trucks are made in three models: (1) one-handle; (2) two handles and (3) barrel-type with two handles. Options are six in. or eight in. wheels, solid or zero-pressure tires, wheel guards.

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USE THE READER SERVICE CARD FOR MORE INFORMATION

EXTEND YOUR CONVEYOR
LINES WHERE
NEVER
BEFORE
POSSIBLE!



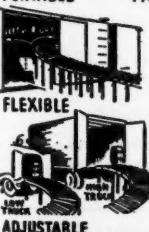
TO TRUCK PLATFORMS,
SHIPPING ROOMS,
WAREHOUSES . . .
LOADING RAMPS,
ETC. . . .
Here's The Answer
To These Ever
Changing Conveyor
Problems.

★ Portable
★ Flexible
★ Adjustable
**ROLLER
CONVEYORS**



Corners, posts,
obstructions,
etc. are no
longer a prob-
lem to keeping your production lines operating.
Convey around them the Flex-Co way by simply
taking your conveyors to your work. Flex-Co Roller
Conveyors are demountable to 8 inch sections, so
that they can easily be carried from one location
to another, and added to as you need them . . .
as your ever changing conveyor problems require
new conveyor set-ups. Inclines or grades can be
formed quickly.

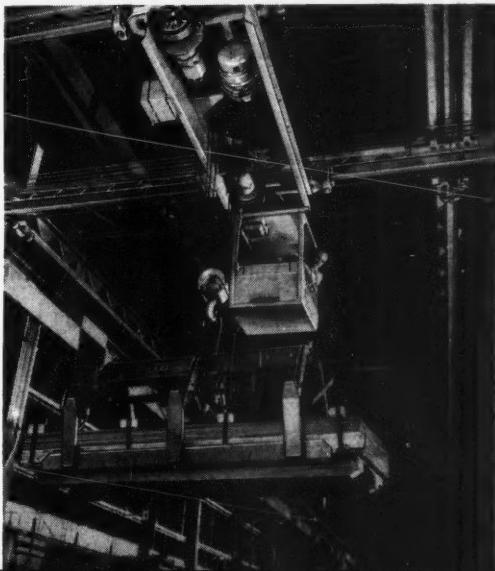
Write for complete details . . . learn what it
means to have corners unlimited.



SINCE 1909 **BERLIN CHAPMAN CO.** BERLIN, WIS.

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FLOW • JULY, 1952

ECONOMICAL SHEET HANDLING



LOUDEN OVERHEAD HANDLING OF SHEET STEEL
PAYS FOR ITSELF QUICKLY, AND YIELDS
TREMENDOUS SAVINGS IN MAN-HOURS . . .

To meet the mill practice of shipping sheet steel in five-ton bundles, it is almost mandatory that fabricators likewise use overhead handling equipment. Otherwise expensive man-handling and inefficient transportation inside the plant are inescapable. Further, steel prices are higher when sheets are shipped in less than five-ton bundles.

Louden Monorail equipment permits bundles to be hoisted intact from railroad cars and moved to storage or the start of a fabricating process anywhere inside the plant. Then, the same equipment may be used for intermediate handling steps in the fabricating process.



WRITE FOR THIS FREE BOOK

Case histories telling how Louden Monorail Systems have saved time and money for widely different kinds of industries are described and pictured in a new, illustrated, 36-page book called, "Economical Material Handling".

THE LOUDEN MACHINERY COMPANY
5116 S. Court St., Fairfield, Iowa

Louden

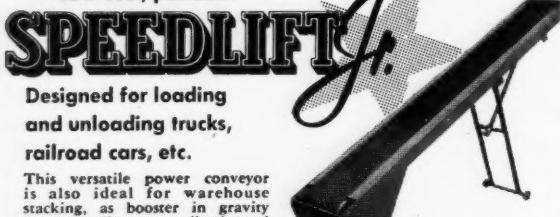
OVERHEAD MATERIAL HANDLING

Circle No. 102 on Reader Service Card for more information

Circle No. 103 on Reader Service Card for more information

NEWEST ADDITION to the famous SPEEDWAYS CONVEYOR LINE

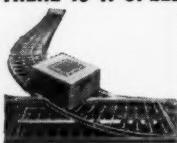
Low cost, portable



Designed for loading
and unloading trucks,
railroad cars, etc.

This versatile power conveyor is also ideal for warehouse stacking, as booster in gravity conveyor line, as a horizontal assembly line unit and many, many other everyday jobs.

THERE IS A SPEEDWAYS CONVEYOR TO SUIT YOUR NEEDS



SPEEDWAYS GRAVITY WHEEL CONVEYORS. Light, sturdy, portable. Handle up to 600 lbs. distributed load.



SPEEDWAYS GRAVITY ROLLER CONVEYORS. Best for hard-to-handle items like kegs, baskets, milk cans, etc.



SPEEDLIFT AND SPEED-BELT POWER CONVEYORS for heavy duty boosting and loading and for assembly lines.

1261 NIAGARA STREET
BUFFALO 13, N.Y.

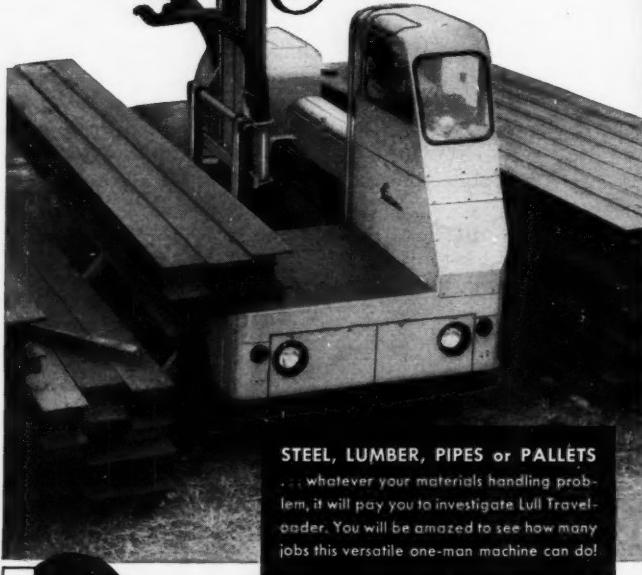
Also Mfd. in Canada;
Union of So. Africa

Your nearest SPEEDWAYS distributor will gladly show you how SPEEDWAYS' low cost equipment can speed your production and save money. Call him or write us.

SPEEDWAYS
CONVEYOR'S INC.

Can you use

50% or MORE STORAGE SPACE?



STEEL, LUMBER, PIPES or PALLETS . . . whatever your materials handling problem, it will pay you to investigate Lull Traveloader. You will be amazed to see how many jobs this versatile one-man machine can do!

Make extra space with the LULL

Hydraulic Traveloader

Traveloader design and operation work three ways to increase storage space and speed materials handling:

1. All loads are picked up from the side. Loads are quickly accessible . . . aisle widths reduced.
2. One man operating finger-tip controls in comfortable Traveloader cab, quickly loads, carries, unloads or stacks up to 12'.
3. Long materials are handled lengthwise. You need only narrow 10' aisles . . . gain additional storage capacity.

Lull Traveloaders have capacities of 10,000 lbs. and 15,000 lbs. . . . travel at speeds up to 30 MPH . . . are available with fork, crane, reel and other time saving attachments.

WRITE TODAY for amazing Traveloader story!
Ask for Bulletin No. AD-30 A



Lull Manufacturing Company 346 West 90th St. • Minneapolis 20, Minn.

Export Office: 105 West Fourth St., Cincinnati 2, Ohio

Cable Address: "REPRINT"

Circle No. 104 on Reader Service Card for more information

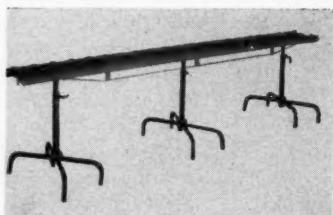
Heavy-Duty Conveyor—Market Forge Co.

The Market Forge Load-Veyor was designed to handle heavy loads. This 20 in.-wide heavy duty conveyor is made in five ft. and 10 ft. sections with 45° and 90° curves to suit special and individual needs. Ball-bearing wheels, two in. diameter and $\frac{5}{8}$ in. wide are spaced on less than three in. centers. The unit is available with welded-on connectors which are inter-connectable with the majority of other wheel conveyors of the same size. It can also be supplied with Market Forge removable type connectors. The maker reports that in tests with a load of 2000 lb., distributed over the surface of the conveyor supported on only two stands, one at each end, there was less than 3/8 in. deflection at the center.

Circle No. 174 on Reader Service Card for more information

Trailer-Truck Caster—Midwest Precision Corp.

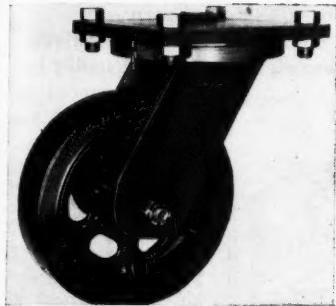
This caster, called the Midwest Loadmaster, features a Timken roller load bearing that is said to permanently eliminate damage to raceways. It is a self contained unit which can be removed and replaced in the time it takes to remove the top plate alone. The manufacturers state that the new caster is ideally suited for replacement as well as



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equipping new caster installations. Rollers are protected from dust and dirt and the grease retainer is an integral part of the bearing. The caster has a $\frac{5}{8}$ in. steel top plate and $1\frac{1}{4}$ in. king bolt. Wheels may be

steel, molded on rubber or plastic as per requirements. The caster is reportedly ideal for heavy-duty service in automotive, aircraft and related industries where trailer trucks are used. Made by Midwest Precision Corp.

Circle No. 175 on Reader Service Card for more information

Hydraulic and Electric Lifts—Big Joe Mfg. Co.

New models of the Big Joe lifts have been announced by Big Joe Mfg. Co. Four of the new lifts with adjustable forks are said to lift 800 lb. loads to heights of 52 in., 66 in. and 78 in. Those lifting to 52 in. are made both in foot operated and electric-hydraulic operation. Forks are adjustable for use of both large and small skids. Self-adjusting foot operated dual safety-brakes are included as standard equipment. Hand guards are another safety feature of the lifts.

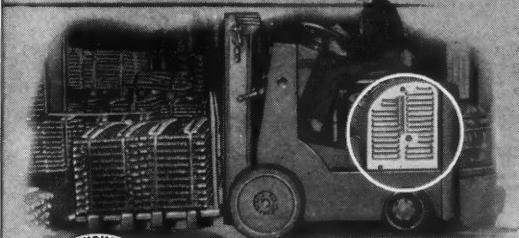
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Circle No. 107 on Reader Service Card for more information

ARE YOUR ELECTRIC
TRUCKS GUILTY OF
"4 O'CLOCK LETDOWN?"

READY-POWER DRIVE for Full Efficiency ALL THE TIME!

Only Ready-Power gives your electric trucks full efficiency for every minute of every hour... all day long. Ready-Power-equipped trucks are so easy to operate, drivers are more efficient, too. Unlimited power plus alert drivers add up to more ton-miles per hour.



Your Truck Is No Better Than Its Power

The READY-POWER Co.

3838 Grand River Ave., Detroit 8, Michigan
Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

REDUCE BULK STORAGE LABOR AND EXPENSE...



HANDLING MATERIAL IN STORAGE SHED

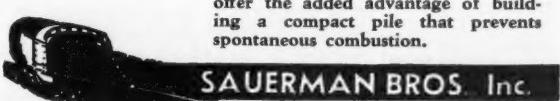
Sauerman Scraper installed in large storage building reclaims acid fertilizer to a floor hopper which feeds an inclined belt extending over a loading track. Operator sits in comfortable station near hopper.



Write today for helpful
FREE book on
Bulk Storage

SAUERMAN POWER SCRAPER

You can drastically reduce the cost of storing and reclaiming bulk materials with a Sauerman Power Drag Scraper. That's because one man can operate it—can quickly handle tons of raw or processed materials, indoors or out, in a space of any size or shape. Sauerman Power Scrapers are low in first cost, too—seldom need repairs. And for stockpiling coal, they offer the added advantage of building a compact pile that prevents spontaneous combustion.



SAUERMAN BROS. Inc.

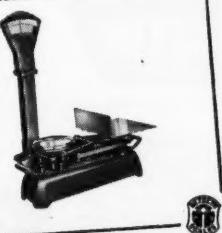
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DETECTO • SCALES • INC.

MAKERS OF FINE SCALES SINCE 1890

543 W. PARK AVENUE • BROOKLYN 5, NEW YORK
SCALE ENGINEERS IN ALL PRINCIPAL CITIES



DETECTO-GRAM NEW PACKING SCALE

Another Detecto-Gram Scale for weighing your ingredients accurately. New Model #3800 brings to your heavy duty weighing jobs the mechanical accuracy previously found only in small scales. Capacity $\frac{1}{4}$ ounce to 60 lbs. Write for literature

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FLOW • JULY, 1952

Circle No. 66 on Reader Service Card for more information

A Material Handling Must

WHERE CAN I BUY A HAND LIFT TRUCK?
WHAT COMPANY USES THE TRADE NAME
"SHOP MULE"?
WHAT'S AN OSCILLATING CONVEYOR?
WHAT ARE SAFE LOADS FOR MONORAIL
STRUCTURES?
WHO MAKES PACKAGING MACHINERY?

If you've ever wanted the answers to questions like these in a hurry, and didn't know where to get them—they're all included in the 1952-53 edition of **FLOW DIRECTORY**.

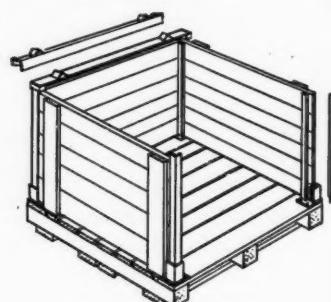
No material handling man should be without a copy of this 636-page combination reference and buying guide. Actually, it's six volumes combined into a single handy, valuable book and priced at only \$6.50.

Order copies from:

THE FLOW DIRECTORY
1240 Ontario St.
Cleveland 13, Ohio

Versatile Stacking Box—*The Paltier Corp.*

A heavy duty knock-down stacking box which takes loads up to 400-500 lb. and which has great versatility has been announced by Paltier Corp. According to the manufacturer, it may be used as a stacking box, as a stacking bin, as a stacking pallet, and is easily and quickly knocked down and bundled for shipping. It consists of a wood pallet and four interlocking wood side



panels held in place by four structural posts which slip-fit into angle sockets screwed to the corners of the pallet with four lag screws. Angle cross bars with alignment angles and end closures slip-fit over the top of these posts to support the box above. The alignment angles help center the box above and prevent slippage. It is offered in any size.

Circle No. 177 on Reader Service Card for more information

A simple, quick way to learn more about items shown on these pages is to use the Reader Service Card.

Here's the **LIFT**
that **LOWERS** Costs

Move Loads Between Levels

with a **SERVICE ELECTRAULIC LIFTER**

Service "Four-Poster" Lifter eliminates long, space-wasting ramps and takes strain off men and mobile equipment in moving loads between floor levels. Used as a dock hoist, it speeds up loading and unloading of trucks and boxcars. Operates smoothly from an electric-hydraulic power unit de-

signed for continuous operation. No pit is required—it's easy to install indoors or out. Lifters are available with capacities to 12,000 lbs., platform sizes 5 to 12 ft. and for lifts 5 to 17 ft. Both portable and permanently-installed units. For more detailed information, write today, for Bulletin 51.



See **SERVICE** for "Specials"

Versatile design of Service's wide range of Lifters, Levelers and Liftables permits them to be made up as semi-specials to fit your exact needs. We'll be glad to help you with your lifting problems.

Keep **MOTOWLIFT** in Mind!



It's the fork lift truck so good that military needs take all we can make. Soon, we hope, you will be able to buy it again—the best truck for most jobs in most plants. Keep Motowlift in mind.



SERVICE CASTER & TRUCK CORP

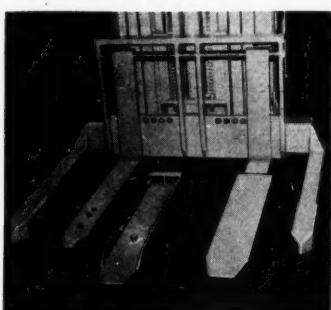
Executive Offices: Albion, Michigan • Plants at Albion, Michigan
and Somerville 43, Mass.

SEE YOUR CLASSIFIED TELEPHONE DIRECTORY FOR NEAREST DISTRIBUTOR

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Telescoping Fork Extensions—The Raymond Co.

For handling light bulky loads on large pallets, Raymond Corp. has designed telescoping fork extensions for use on their electric trucks.

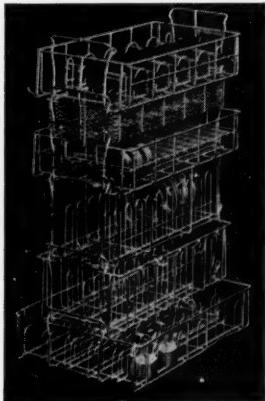


The fork extensions remain on the elevating forks at all times, eliminating the possibility of misplacing the extensions and offering the assurance that they will always be readily available when required. Formed steel channel sections

with a retaining bar welded underneath fit over the regular elevating forks. A lock pin welded to the fork extension drops into any one of a series of holes drilled in the elevating fork making it possible to extend the forks to several desired lengths. Extensions are available on both the 2000 lb. and 3000 lb. capacity Raymond straddle type electric trucks.

Circle No. 178 on Reader Service Card for more information

Mid-West "Carryers"



... STACK EASILY LOADED OR EMPTY

The Mid-West patented* integral handle-runner and nesting feature permits easy stacking whether loaded or empty. They are locked sideways and endways even though "Carryers" are of different heights and widths. The whole stack is easily moved by hand truck or sliding on runners of bottom "Carrier." Space is conserved when parts are waiting handling or when "Carryers" are not in use. Parts inventory is easy when loaded "Carryers" are stacked.
*U. S. Patent No. 2364705.

CIRCULAR ON REQUEST



"If it's made of wire,
we can make it"

SPECIALISTS
IN MEANS OF
SUSPENDING
MACHINED
PARTS



MID-WEST WIRE PRODUCTS CO., INC.

JERRY GERALDS, President

FENKELL AT LINWOOD

DETROIT 21, MICH.

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FLOW • JULY, 1952

Use Self-Dumping Containers

USE THE ORIGINAL ROURA Self-Dumping HOPPERS

Save
TIME and LABOR

*Imitated by Many—
Not Equalled by Any*

—they pay for themselves



Only ROURA Has The Exclusive
PATENTED Instant Release Handle

Handling wet or dry, hot or cold, bulky materials quickly and easily, the ROURA is simple to operate—only one man is required for distributing and unloading—and he does this in much less time than ordinarily required under old-fashioned manual methods. Thousands of Roura Hoppers (which fit any standard fork or platform lift truck) are in constant daily operation, serving and saving for such firms as Owens-Illinois Glass, Corning Glass, National Fireproofing, General Motors, Ford, Chrysler, American Brake Shoe, General Electric, Westinghouse, Western Electric, American Steel Foundries, International Harvester, John Deere, etc.

By a simple lift of the exclusive release handle, the ROURA HOPPER dumps, rights and locks itself securely. Sizes— $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{2}$ and 2 cubic yards; the ROURA HOPPER can also be designed for flat trucks and in other sizes to meet specifications. Also, it can be equipped with special flanges that permit stacking to desired tiers for storage or future distribution of materials—conserving valuable floor space. Priced below all competition, the ROURA will quickly pay for itself many times over.

—Can Be Coated With Acid-Resistant Paints
Write today for detailed brochure, "In Dollars & Sense."

ROURA IRON WORKS, Inc.

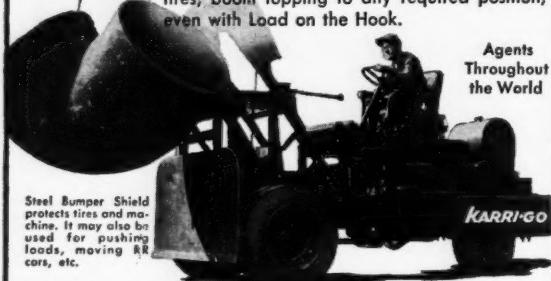
1411 Woodland Ave. Detroit 11, Mich.

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Circle No. 112 on Reader Service Card for more information

FRONT-BOOM MOBILE CRANE **KARRI-GO** SAVES DELIVERS ALL THE LOADS IN YOUR PLANT!

Write for
Bulletin
No. 73



Steel Bumper Shield
protects tires and machine. It may also be used for pushing loads, moving cores, etc.

Pioneer Mfrs. of Heavy-Duty Materials-Handling Equipment . . .
KRANE KAR Swing-Boom Mobile Cranes . . . LIFTRUK Fork Lift Trucks
. . . Cranes for Motor Trucks . . . Capstans and Single and Double
Drum Winches.

SILENT HOIST & CRANE CO.

888 63rd Street, Brooklyn 20, N.Y.

Agents
Throughout
the World

A PROFITABLE PORTABLE Loading Dock...

the BUSCHMAN . . . TROJAN

Use it where you need it . . . for loading and unloading . . . between times for stacking, boosting, conveying . . . alone or in combination with fixed and portable conveyors. The Trojan handles cartons, cases, boxes, crates or other packages up, down or on the level at 50 feet per minute speeds. Standard 12" width by 10, 15 or 19 feet long. One man maneuverability, easily adjustable loading and unloading heights.

Write for Bulletin 50.

THE E. W. BUSCHMAN COMPANY
4450 Clifton Avenue
CINCINNATI 32, OHIO

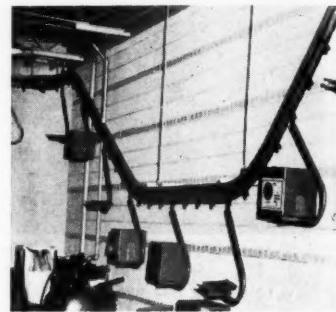
PRODUCE MORE . . . FOR LESS
Buschman
Conveyors

Circle No. 113 on Reader Service Card for more information

134

Light Duty Overhead Conveyors—Keystone Conveyor Co.

These conveyors are claimed to be space savers and labor savers in transporting material through all phases of production. Short conveyors can be built from floor supports and can be readily moved to new locations. The conveyors are made up of three component parts: the center, the side bar, and the connecting pin. It is assembled without the use of any tool as neither rivets or bolts are used. It is claimed that the equipment is designed so that the chain cannot become disconnected in service. Two models are available; one with a trolley capacity of 80 lb., and the other 40 lb.



Circle No. 119 on Reader Service Card for more information

INCREASE
LOADING
CAPACITY
WITHOUT
INCREASING
COSTS!

MagLiner
MAGNESIUM
DOCK BOARDS

MAGLINER Dock Boards provide strength-to-spare for the heaviest of loads and equipment, yet are easily handled by one man! Eliminate loading accidents . . . lifting injuries! Get the benefits of smoother, faster, more efficient loading. Before investing in any dock board, write for complete information.

STANDARD AND CUSTOM-ENGINEERED MODELS • WRITE FOR BULLETIN DB-203

MAGLINE, INC. • P.O. BOX 346 • PINCONNING, MICHIGAN

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JULY, 1952 • FLOW

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Circle No. 116 on Reader Service Card for more information

Stacking Boxes—Telday Mfg. Co.

This is one of many types of shop boxes made by the Telday Manufacturing Co. It is made with piling shelf on three sides, and with hopper front, and is available in a large variety of



sizes. Other styles of stacking boxes made by the company include: one with a flange all around the top into which another box may be fitted; one with shelf at each end and sides flush for dumping ease; one with a piling bracket at each corner to provide a solid stacking feature.

Circle No. 180 on Reader Service Card



Conco Twin Hook Die Handling Crane • 15-Ton Capacity

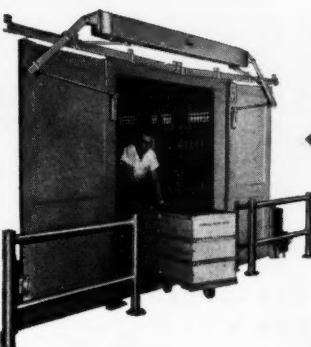
Whether your needs call for a specially designed crane — like the twin hook model shown — or a standard model, Conco Cranes are first for performance in various capacities and spans, a type for every application. Write for details.

CONCO ENGINEERING WORKS

Division of H. D. Conkey & Co., 38 Grove St., Mendota, Ill.



What are Stanley Magic Doors doing in industrial plants?

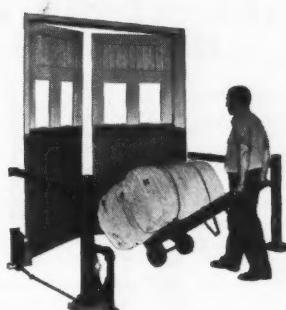


Speeding PRODUCTION ▶

By opening and closing doors automatically Stanley Magic Door Controls keep materials flowing smoothly, swiftly, safely. Plant output is stepped up, man-hours are saved.

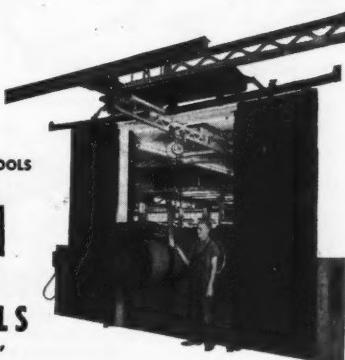
Helping to cut MATERIALS HANDLING costs

By eliminating congestion at doorways and traffic slowdowns, Stanley Magic Door Controls reduce materials handling time, prevent damage to doors and goods in process.



Controlling HUMIDIFICATION ▶

Because Stanley Magic Doors open promptly, automatically and, after traffic has passed, close promptly, heating, humidifying, and air conditioning systems operate more efficiently.



Actuated by a "Magic Eye" (photoelectric), or other means on special installations, Stanley Magic Doors (1) open automatically on approach, (2) stay open until traffic has passed through, then (3) close quickly and silently.

Easily adapted to almost any requirement of space and location, Stanley Magic Door Controls can be installed quickly and inexpensively on present doors by your plant maintenance crew. Write for details. The Stanley Works, Magic Door Division, 3067 Lake Street, New Britain, Connecticut.

HARDWARE • TOOLS • ELECTRIC TOOLS
STEEL STRAPPING • STEEL

STANLEY

Reg. U.S. Pat. Off.

DOOR CONTROLS

"The Magic Door"

COMPLETELY AUTOMATIC DOOR CONTROLS FOR SWINGING, SLIDING OR FOLDING DOORS

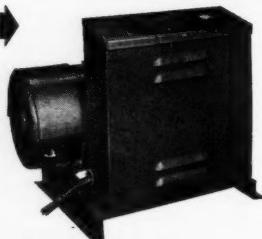
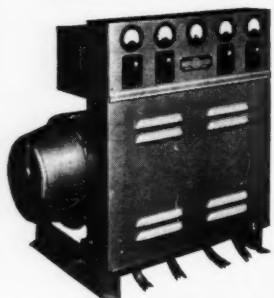
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Circle No. 117 on Reader Service Card for more information

Consult Hertner for single circuit, multiple circuit, or custom-built motor- generator battery charging equipment for driver ride trucks or motorized hand trucks

"KX" Charg-O-Matic Line ▶

Single or multiple circuit models are available for charging driver-ride electric trucks. The single standardized circuit line is available in 13 models for charging lead acid batteries and 7 models for charging Edison batteries. For central station charging the unitized switchboard is provided in sections with a motor generator set for charging two or more batteries simultaneously.



"HX" Charg-O-Matic Line

Single or four circuit models are available for charging motorized hand truck batteries—a series for lead-acid batteries and a series for Edison batteries.

Double Duty Charge Control

An accessory for automatically charging two batteries from either an "HX" or "KX" single circuit battery charger.

Special-built Battery Chargers

Where battery charging equipment is needed to do a special job, Hertner engineers and modern plant facilities are available to produce a charger to fit any requirement.

Standard Models for immediate shipment. For complete information consult your electric truck or Hertner representative, or write direct.

THE HERTNER ELECTRIC COMPANY
12690 Elmwood Avenue • Cleveland 11, Ohio
A General Precision Equipment Corporation Subsidiary



MOTORS • MOTOR-GENERATORS • GENERATOR SETS • REPRESENTATIVES IN PRINCIPAL CITIES

You can provide easy mobility to a variety
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IRONBOUND ALL-PURPOSE HANDLING UNITS . . .



POPULAR IRONBOUND



• An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.



The HANDY
for furniture and
similar items.

The HAULER
for cases, crates,
tote boxes, etc.

The HUSKY
for general use
throughout the plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.



IRONBOUND

BOX & LUMBER COMPANY
Materials Handling Division
30 HOFFMAN PLACE • HILLSIDE, N. J.

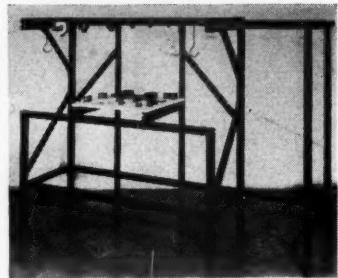
MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS,
FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS



Circle No. 118 on Reader Service Card for more information
136

Rack Frame—Ainsworth Mfg. Corp.

Only three basic units are needed to build rack frameworks for almost any application, reports Ainsworth Mfg. Corp. Trade-named Mult-A-Frame, the company's fully-locking framing material is said to be easily assembled with a common wrench. The three basic units are channel frame, spring T-bolt, and safe-locking

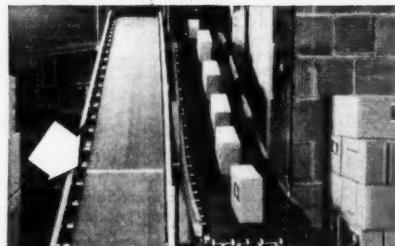


fitting. The channel frame comes in several sizes and weights that may be used in combination. The spring T-bolt is designed to be inserted and removed with a twist of the fingers. Hundreds of special fittings are available according to the manufacturer.

ALLIGATOR



CONVEYOR BELT LACING



in Long Continuous Lengths for Conveyor Belts

- ★ Excellent for Package Conveyors, Portable Loaders, Trenching and Ditching Machines, etc.
- ★ In canneries where corrosion or rust is a problem specify Alligator made of Stainless or Monel.
- ★ For magnetic separators or anti-sparking specify Alligator made of Everdur.
- ★ Separable and smooth on both sides.
- ★ 12 sizes. For belts from 1/16" to 5/8" thick—and any width.

Order from Your Supply House. Ask for Bulletin A-60.
FLEXIBLE STEEL LACING CO. 4702 Lexington St., Chicago 44, Ill.

JUST A HAMMER TO APPLY IT

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JULY, 1952 • FLOW

Circle No. 122 on Reader Service Card

LOOK! 5 USED AUTOMATIC ELECTRIC Fork Lift Trucks

3,000 lbs. capacity. Model BF 30 SKYLIFT. Built in 1948. Serial nos. 15332, 15333, 15334, 15335, 15336. Spark enclosed construction. 83" mast, 130" lift, 36" forks. Complete with Exide lead battery. \$3,500

Subject to prior sale

Our very large inventory of fine used equipment is constantly changing. Let us know your needs. If you have equipment for sale, send us your list for immediate consideration.

Write, Phone or Wire!

L & C MACHINERY
CORPORATION
460 TROUTMAN ST., BKLYN., N.Y.
HYacinth 7-3331

Overhead Guard—Towmotor Corp.

Protection for operators in high stacking multi-unit loads is afforded by the Towmotor Overhead guard. The attachment is constructed of 1½ in. and 2 in. steel pipe and is recommended for use on all lift trucks with



a lift exceeding 144 in. When mounted in the factory, the guards are fastened to the frame of the truck. When ordered for field installation, they can be attached by means of bolts and clamps which are furnished. Manufacturer is Towmotor Corp.

Circle No. 182 on Reader Service Card

SELECT A

Sterling

THAT FITS YOUR JOB!



TUBULAR STEEL FRAME

12 SPOKE STEEL WHEEL

There's a Sterling Barrow for every type of hauling job, whether it's dry, bulky materials like sawdust or heavy industrial loads like castings or steel parts. Also special barrows for brick, tile, coal, concrete blocks and similar materials. All barrows are scientifically designed, well balanced and sturdily constructed for a long service life. Choice of wood handles or tubular steel frame, steel wheels or pneumatics. Write for new Sterling Wheelbarrow Catalog No. 61.



PNEUMATIC TIRED WHEEL

IMMEDIATE SHIPMENT

WOOD HANDLED BARROW

STERLING WHEELBARROW CO., Milwaukee 14, Wis.

Sterling

WHEELBARROWS

Look for this Mark of
STERLING Quality

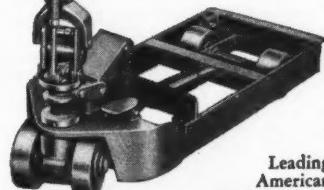
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**AMERICAN
MANUFACTURERS
SPECIFY
Weld-Bilt
TRUCKS FOR
OVERSEAS PLANTS**



**Weld-Bilt[®]
PRODUCTS**

MECHANICAL
LIFT TRUCK



Leading American
manufacturers

have learned that Weld-Bilt Trucks are rugged and dependable under the most exacting conditions. In remote plants, where parts and service are hard to come by, Weld-Bilt Trucks can be counted on to stand up and deliver.

You can SEE the greater strength and durability in Weld-Bilt Equipment . . . in heavier arc-welded construction, in sturdier operating parts, in many innovations that assure easier, friction-free operation. Whether your plant is near or remote, Weld-Bilt Equipment will SAVE MONEY on both original cost and maintenance expense. Write today for catalog and details on the complete Weld-Bilt Line.

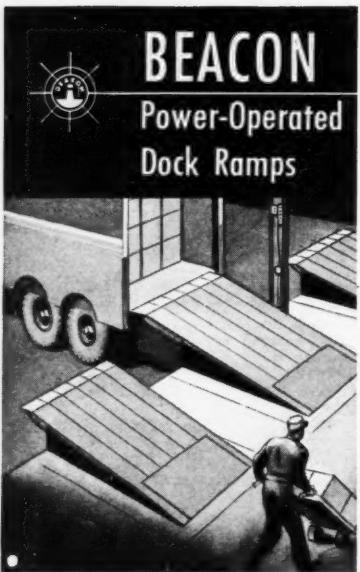
**WELD-BILT Equipment
Includes:**



**WEST BEND
EQUIPMENT CORPORATION**
MATERIALS HANDLING ENGINEERS

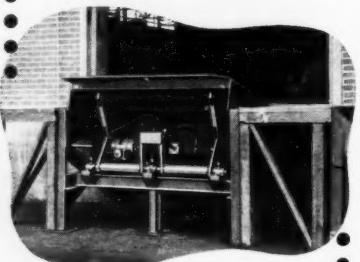
335 WATER ST. • WEST BEND, WIS.

Circle No. 120 on Reader Service Card



- A unit providing a ramp from dock to truck bed that compensates for the differential of level between these points.
- ... Three dimensions, vertical, horizontal and lateral. ... Finger tip control, providing safe, dependable operation, bringing smiles to the face of your safety engineer.

Cuts your loading time 25% and increases present dock capacity without using a wall stretcher.



FULL HYDRAULIC PACKAGE UNIT

A self-contained full hydraulic dock ramp complete with individual motor pump unit. May be installed within the dock area in a prepared pit or in front of an existing dock as illustrated. Unit has 24" of vertical movement and full floating action in use. May be equipped with foot operated mechanical, or electric push button control.

Beacon manufactures a complete line of power operated dock ramps from simple air operated units to our new 4-movement hydraulic dock ramp.

- cuts overhead,
handles more traffic
- more freight handled
—25% less time
- it's safe—no accidents
—no danger of overload

Consult our engineering department for any hydraulic or air material handling problem.

BEACON MACHINERY, INC.

P.O. Box 188, East St. Louis, Illinois

MEN IN THE NEWS . . .

Continued from page 17

. . . at Hyster Co.

Promotion of Robert Lange to head of the Washington, D. C., office has been announced by Philip Hill, general sales manager. As manager of the Washington office, Lange will handle the company's sales to the various government agencies in the nation's capitol.

Robert F. Moody has been appointed eastern division industrial truck sales manager. He was formerly assistant sales manager of the division.

The new district manager of the mid-central territory is Wilton G. Smith. He formerly was head of the company's Washington Office. Smith will work with Hyster dealers in Indianapolis, Louisville, Cincinnati, and other cities in the territory.

. . . at Westinghouse Electric Corp.

J. R. Weaver has been appointed assistant to T. I. Phillips, vice-

K&J for TRUCKS and Casters



One dependable source for 2 wheel trucks, platform trucks, trailers. Units for loads to 50 tons. Wood or steel construction. All accepted bearing, wheel, and caster combinations. Built with high overload factor for low maintenance.

Get the same dependable quality and value in K&J casters. All standard designs, bearings, wheels, 175 lbs. to 1 ton capacity. Write for details.

\$54,900 SAVED yearly... by improved MATERIALS HANDLING

.... that's the story of one of our clients. A preliminary survey without charge will determine your potential savings. Isn't it worth investigating? We invite your inquiry.

Gemar Associates
CONSULTING
MATERIALS HANDLING
ENGINEERS

Greenwich, Connecticut
Over 20 years experience



THE KILBOURNE & JACOBS MFG. CO.

Circle No. 126 on Reader Service Card

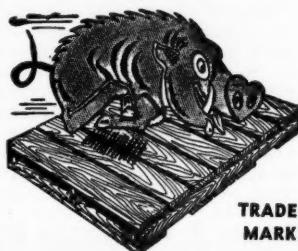
QUALITY You'll Remember!

RAZORBACK PALLETS are being purchased by many of the leading firms in the nation—companies that demand quality and know that quality pallets mean longer life and lower maintenance costs!

ROUNDED CORNERS are available on any of our pallets at slight extra cost.

Arkansas Pallet Co.

P. O. Box 794-A Phone 6474
PINE BLUFF, ARKANSAS



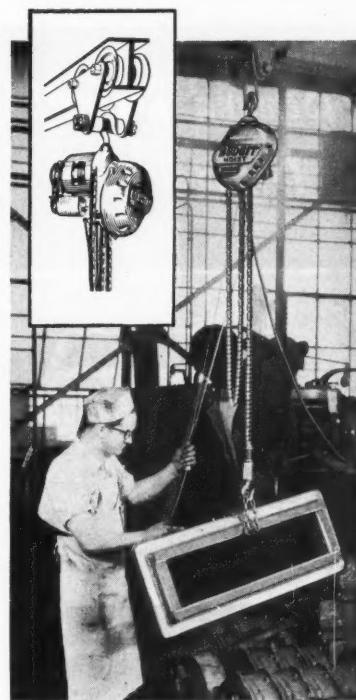
president in charge of manufacturing. For the past four years, Weaver has been on assignment to Baldwin-Lima-Hamilton Corp. where he served as vice president in charge of manufacturing. In his present position, he will be located in Pittsburgh.

. . . at Robert Gair Co., Inc.

William T. May, Jr., vice president in charge of container operations at **Robert Gair Co., Inc.**, has announced the following appointments: Hubert A. Downing becomes division manager of Gair's Fort Niagara corrugated box division replacing Edward V. Patrician who died recently; Frank E. Newton has been made division manager at Ohio corrugated box division; John D. Mullins has been appointed sales manager of the Boston corrugated box division.

. . . at Hercules Steel Products Corp.

George C. McClure, executive vice president and general manager



LIFTS FAST...

SAVES FAST

Greater production results when load handling keeps pace with the capacity of machines to produce. So—boost your defense and civilian output—lower your costs—with the 'Budgit' Electric Hoist. The smallest 'Budgit' lifts 250 lbs. a foot in less than two seconds. No more strained ligaments or other injuries due to manual lifting. Hoisting is safe, easy and fast because electricity does all the heavy work.

The 'Budgit' is miserly in using electricity. It's a complete load lifting unit in itself—no accessories to buy, no installation costs. Hang up, plug in, and it's ready for work. Capacities: 250 to 4,000 lbs. A.C. and D.C. models. Priced from \$119. Write for Bulletin No. 390 for more details.



'BUDGIT' CONDUCTOR CORD TROLLEYS — keep flexible conductor cord up off of way while carrying electricity to monorail hoists. Roll smoothly around curves, past switches.

'Budgit'
ELECTRIC HOISTS

MANNING, MAXWELL & MOORE, INC. MUSKEGON, MICHIGAN

Builders of "Shaw-Box" Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, and 'American' Industrial Instruments.

Circle No. 127 on Reader Service Card

Replacing the hazardous manual labor of 2 or 3 men, DRUMOBILE instantly lifts, transports and releases fully loaded drums or barrels up to 850 lbs. with no human exertion. Even when the container is open and brim full, DRUMOBILE safely lifts and carries the heavy load without spilling a drop.

Steel wheels standard. Rubber tire wheels extra. Neoprene tires and wheels available on special order. Prices on request.

SPECIAL MODELS: For lifting barrels 14" off floor. Heavy duty drum models, 1500 lb. capacity and over. Send for free bulletin.

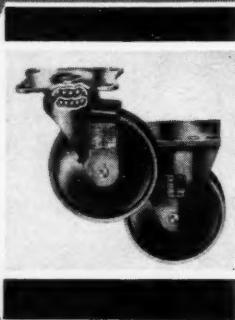
KIST MACHINE CO.

1003 E. Ferry St., Buffalo 11, N.Y.

ALL PRICES F.O.B. FACTORY

Circle No. 125 on Reader Service Card for more information

Demand Darnell
Dependability



Specify Darnell
for Complete
Satisfaction

- Save Money,
Floors, Equipment
and Time by using
DARNELL Casters
and Wheels... Always dependable,

**Free
MANUAL**

Darnell
CASTERS & WHEELS

DARNELL CORP., LTD.
DOWNEY, (Los Angeles County) CALIF.

60 Walker Street, New York 13, N.Y.
36 North Clinton, Chicago 6, Illinois

Circle No. 128 on Reader Service Card
160

of Hercules Steel Products Corp. died recently.

... at Caterpillar Tractor Co.

William A. Franklin, controller, has been elected vice president by the board of directors. He will assume the additional duties of secretary, replacing E. Bornstein, who is retiring. A. N. Whitlock, assistant controller will advance to the post of controller.

The appointment of Harold C. Fleming, Jr. as supervisor of Trackson advertising has been announced by Advertising Manager W. K. Cox.

... at Link-Belt Co.

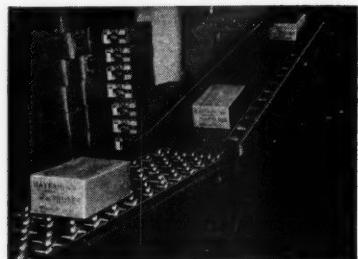
William L. Hartley, formerly sales manager at the Philadelphia plant, has been transferred to executive sales headquarters at Chicago. He will specialize in the application of long-haulage belt conveyors and to assist on other major engineering projects.

George A. Most, Jr., has been appointed district manager at Moline, Ill., to succeed Stuart T. Penick. Penick has been appointed sales engineer to specialize in power plant coal handling equipment at the new Link-Belt Colmar plant.

Circle No. 130 on Reader Service Card

"STREAMLINER"

CONVEYOR SYSTEMS



SAVE TIME - MONEY - EFFORT

Ingenuity and efficiency at work... the "Ferguson" Inclined Conveyor is elevating wholesale groceries from gravity wheel conveyor. This arrangement, engineered specifically for plant and product, reduces handling costs, expedites materials through processing, storage and shipping areas. Such a cost-cutting conveying system can be engineered to meet your needs. Write for descriptive literature, on Gravity & Power Conveyors.

HARRY J. FERGUSON CO.

121 WEST AVE., JENKINTOWN, PENNA.

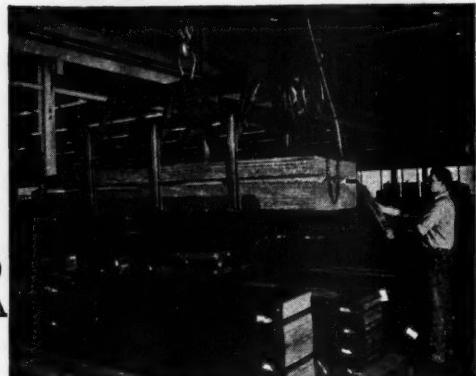
One Sure Way to CUT COSTS!

use a

**C-F
SHEET
LIFTER**

The A. B. Dick Company, Niles, Illinois, found that this C-F Lifter has substantially reduced man hours and crane time required to move stock in and out of storage.

Up to 10,000 lbs. of high grade sheets in varying widths may be picked up, carried and unloaded at shears or machines with speed and



economy by the Lifter and its operator.

C-F Lifters are made in standard or semi-special models to handle from 2 to 60 tons. Bulletin SL-28 describes the advantages you can obtain from C-F Lifters. Write for it today.

CULLEN-FRIESTEDT CO.

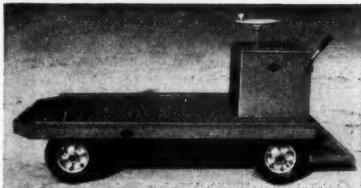
1320 South Kilbourn Avenue • Chicago 23, Illinois



Circle No. 129 on Reader Service Card for more information

JULY, 1952 • FLOW

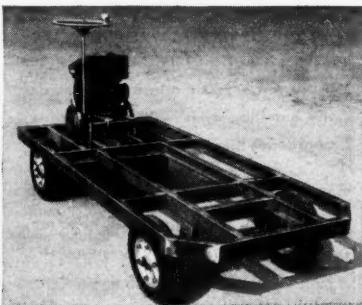
Save \$\$\$\$\$ on MATERIALS HANDLING



With a carrying capacity of 2000 lbs., CON-SOL's new industrial truck means savings in first cost, operation, and maintenance. It is ideally suited for a great variety of jobs in warehouses, factories, airports, supply depots, docks, and railway and truck terminals.

• Check these features...

21 sq. ft. of hardwood loading surface. Removable stanchions 24" high stowed in rack under platform. Room on each side of engine housing for carrying long tubing, boards, etc. Reliable and economical Briggs & Stratton 3.10 H.P. engine has starting crank, and oversize muffler for quiet operation. Chain drive permits speed variation by choice of sprocket size.



Exceptionally rugged, its frame is of 3" channel steel, electrically welded. Simple and safe to operate, thanks to its riding platform, over-size disc brake, foot-operated accelerator, single lever transmission control, and steering wheel with spinner for easy control. Readily maneuverable, with its short 14 ft. turning radius. Quiet in operation, because of its large pneumatic tires and engine muffler. These quality features are usually found only in more expensive trucks.

Dealers' inquiries invited.
Write for full information, Dept. FL.



CONSOLIDATED INDUSTRIES, INC.
WEST CHESHIRE, CONN., U. S. A.

Circle No. 133 on Reader Service Card
FLOW • JULY, 1952

... at Evans Products Co.

Dan Olson has been named assistant advertising manager. In his new job, he will be associated with Sam Hudson, the company's director of advertising and public relations.

... at The Cleveland Vibrator Co.

Randolph L. Ruhley has been appointed Resident Sales Engineer for the ten Atlantic Coastal States from Maine to Maryland, including New York.

... at Goodyear Tire & Rubber Co.

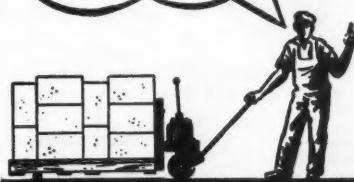
Robert E. Workman, formerly St. Louis district manager has been named to the newly established post of manager of commercial development. Headquarters will be in Akron.

Robert R. Osmun has been appointed to the Truck tire sales department, specializing on industrial tires. He replaces H. M. Caruthers who recently was named manager of Farm Tire Sales here.

Circle No. 131 on Reader Service Card

DON'T BUY ...

any lift trucks
until you check your needs
against Revolvator's new
Truck Index.
Send coupon today.



REVOLVATOR CO.

REVOLVATOR CO.
8639 Tonnele Ave., North Bergen, N. J.

Gentlemen:
We want to know, without obligation, all about Revolvator Red Giant Lifttrucks.

Name.....

Position.....

Company.....

Address.....

Efficient Materials-Handling at the "Grass Roots" Level



CASTERS

• No matter how modern or streamlined your truck fleet, it's no better than the wheels and casters it rolls on. Surprising—how a few dollars spent for Colson casters can increase the efficiency of hundreds or thousands of dollars worth of rolling stock. There's a Colson for every need—from light casters for office furniture to heavy-duty jobs of 1500 pounds capacity.

Colson also manufactures a wide range of trucks—hand trucks, platform trucks, box trucks, drum and barreltrucks and Lift-Jack Systems. Write us or consult your phone book (under "Casters" or "Trucks—Industrial") for the Colson representative near you.

Write today for free 68 Page Caster Catalog

THE COLSON CORPORATION

ELYRIA, OHIO
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

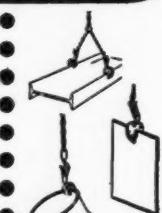
Circle No. 132 on Reader Service Card for more information

MERRILL MATERIALS HANDLING DEVICES

4
SIZES



LIFTING CLAMP



TWIN LIFTER



HAND GRIP



DRUM TILTER

4
SIZES



DRAG CLAMP

4
SIZES



3-M-1



DRUM OPENER

MERRILL BROTHERS
56-35 ARNOLD AVENUE
MASPETH, N. Y.

Circle No. 134 on Reader Service Card
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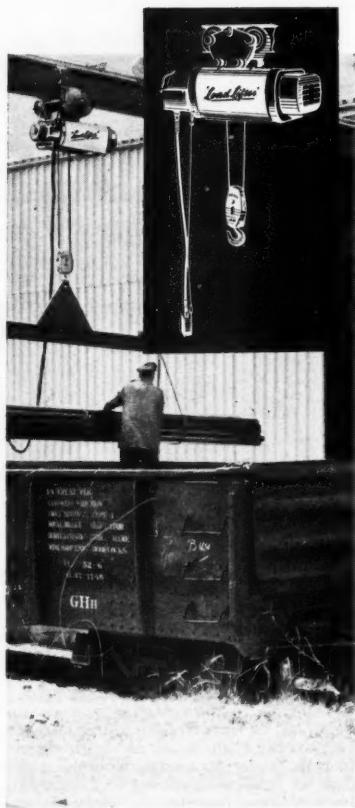
Classified Advertisement Section

USED EQUIPMENT — MEN — JOBS — LINES

Rates: for "Positions Wanted" \$8.00 minimum, limit 25 words. For all other classifications \$10.00 minimum for 25 words; each additional word 25c. Boldface type or all caps, \$12.00 minimum for 25 words, each additional word 35c. Box address counts as five words. All insertions payable in advance.

REPRESENTATIVES WANTED

Wanted — Full or part time, sales representative on Wooden Pallets and Box Shooks in any of the following areas: Massachusetts, Rhode Island, Connecticut, New York (Excluding New York City), Pennsylvania, Southern New Jersey, Delaware, Maryland, Virginia, Louisiana. Write Otto F. Fichte & Son, Inc., P. O. Box 4, Hollis 23, N. Y.

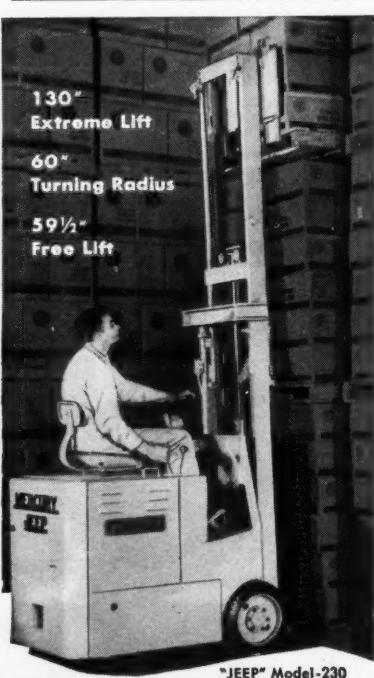


BREAKS DEADLOCKS IN PRODUCTION - -

Efficient load handling is the key to smooth-flowing production. The "Series 700" "Load Lifter" Electric Hoist lifts a ton 30 feet a minute — shortens the handling cycle — gives men time to produce more.

The 'Load Lifter' operates at the push of a button. Man, load, and hoist are safeguarded by steel suspension, strong, heat-treated helical gears, powerful load and motor brakes, and only 24 volts at the push button.

Let the dependable fast-acting 'Load Lifter' wipe out delays and reduce costs for you. Capacities: $\frac{1}{2}$ ton and up; single and two-speed control. Write for Bulletin 399.



Mercury

Send for catalog on complete line of
MERCURY trucks, tractors, trailers.

MERCURY MANUFACTURING COMPANY
4154 S. Halsted St., Chicago 9, Illinois

Circle No. 135 on Reader Service Card



'Load Lifter'

ELECTRIC HOISTS

**MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN**

Builders of "Shaw-Box" Cranes, "Budgit" and "Load Lifter" Hoists and other lifting specialties. Makers of "Ashcroft" Gauges, "Hancock" Valves, "Consolidated" Safety and Relief Valves, and "American" Industrial Instruments.

Circle No. 136 on Reader Service Card
JULY, 1952 • FLOW

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Circle No. 137 on Reader Service Card for more information

Your FLOOR PROBLEMS CAN BE SOLVED!

with **Camp's PRODUCTS**

TAILOR-MADE FLOORS for all requirements:

Heavy-Duty Trucking Floors—Fire-proof Floors—Oil and Grease-proof Floors—Acid-Resistant Floors—Water-Resistant—Spark-proof and Conductive Floors.

#7 INDUSTRIAL FLOOR RESURFACER

Toughest of all mastic resurfacers, covers millions of square feet from Coast-to-Coast. Listed below are a few of the many #7 installations:

- International Harvester, over 1,000,000 sq. ft.
- Central Mfg. District, over 500,000 sq. ft.
- Marshall Field & Co., over 300,000 sq. ft.
- Kraft Foods Co., over 100,000 sq. ft.
- Spiegels, Inc., over 100,000 sq. ft.

OTHER CAMP FLOORS

in use at:

- Great Lakes, over 500,000 sq. ft.
- Standard Oil Bldg., over 200,000 sq. ft.
- Aldens, Inc. (over 100,000 sq. ft.)
- State-Madison Bldg., over 300,000 sq. ft.
- Merchandise Mart, over 75,000 sq. ft.

FLOORING MATERIALS from **COAST to COAST**

Dept. 10
6958 S. STATE ST.
CHICAGO 21, ILLINOIS

The CAMP COMPANY, INC. TRIANGLE 4-4770-1-2

APPLY IT YOURSELF
or we will contract
for, and guarantee
complete installation

Call TRIANGLE 4-4770
for one of our qualified Flooring Engineers to visit you, inspect your floors, and offer recommendations without cost or obligation.

Consult Us on Your Flooring Problems Without Obligation

NEWS FROM THE SALES FIELD . . .

(Continued from page 26)

John C. Megunnigal, sales manager of the steel strapping division, The Stanley Works, has announced the appointment of Harold F. Fogman as sales representative in the states of Washington and Oregon. Headquarters will be in Seattle.

A change in ownership of the Materials Handling Equipment Corp., Houston has been announced. Charles T. Bell, one of the founders of the firm has disposed of his interests to J. E. Brown, former vice-president. Brown now owns controlling interest. The firm will continue from the present address at 7131 Navigation Blvd., Houston Texas.

Unconditionally GUARANTEED!

FOR ONE YEAR
AGAINST ANY MECHANICAL DEFECTS (In Rated Service Use)

Only a quality-made product, like the Peerless Packet Chain Hoist, can offer such a guarantee! Buy it, use it . . . you'll find the Packet Chain Hoist is rugged and tough, with stamina and endurance to spare for every day use. If it isn't all we claim, return it to us. We will either repair it at no charge, or refund your money. The Packet is available in $\frac{1}{2}$, 1 and 2 ton capacities, either hook suspended or integral with adjustable trolley to fit different size I Beams. Look in your classified telephone directory for the nearest Harrington Distributor, or write for Bulletin P-5.

MANUFACTURERS OF HOISTS SINCE 1876

THE

HARRINGTON
COMPANY

1638 W. CALLOWHILL ST.
PHILADELPHIA 30, PENNA.

Circle No. 138 on Reader Service Card for more information
144

LOAD CAPACITY
750 Pounds
LIFTING HEIGHT
52 Inches

LIFT and MOVE

Your DRUMS CRATES DIES JIGS and OTHER LOADS
with TIME SAVING SPEED and SAFETY

Let BIG JOE'S smooth working, powerful HYDRAULIC LIFT keep your production, shipping and receiving... "ON THE MOVE"

With Big Joe's trim design you avoid moving useless dead weight around. Foot pedal operation is far simpler and easier. All moving parts are ball or roller bearing equipped. Positive acting wheel brakes afford maximum safety. Solid rubber tires (no hollow core). Steel or rubber front casters optional. Big Joe models with platform lift also available. Ask for literature showing all models . . . A demonstration can be arranged in your own plant.

Adjustable-Fork Lift (as illustrated)
\$256.50

F.O.B.
Chicago

(Platform Lift
\$236.50 F.O.B. Chicago)

PROMPT DELIVERY

BIG JOE MFG. CO. 184 N. Franklin St.
Chicago 6, Illinois

Circle No. 139 on Reader Service Card for more information
JULY, 1952 • FLOW

FOR HALF THE USUAL COST FULL ELECTRIC FORK TRUCK OPERATION

from
LEWIS-SHEPARD



**LEWIS-SHEPARD took a need
and built this truck around it!**

For cramped areas: right angle stacks in 8' aisles.

For limited floor load capacities: weighs 2500 to 3000 lbs. W/O battery.

For rugged duty: All welded construction, full gear drive.

*And because of Lewis-Shepard's unique
One Design Line it can be priced lower
than any other electric fork truck*

Persistent repeat orders from scores of blue ribbon companies are the very best proof that the "J" will give you all these money saving features . . .
Plus LEWIS-SHEPARD QUALITY.



Since
1915

*Check L-S First
Get the Facts . . .*

**SALES-SERVICE
IN ALL
PRINCIPAL CITIES**

*See Trucks, Industrial, in your Yellow Phone Book
Midwest Plant — CRAWFORDSVILLE, IND.*

THE MOST COMPLETE LINE IS THE MASTER® LINE

LEWIS-SHEPARD

24 Walnut St., Watertown 72, Mass.

- Please send me the "J" Model catalog
 Please have an L-S representative call

Name _____

Company _____

Street _____

City _____ State _____



OUR MARINES' LIFELINE to the sea was in danger. A Communist force of 4,000 men had seized the key hill overlooking Hagaru-ri in the desperate Chosin Reservoir fighting. The hill had to be taken. But there were no combat forces available to make the fight.



Lieutenant Colonel Myers, then a major, rallied together clerks, cooks, and other service personnel, and led a makeshift unit of 250 men in an assault up the snow-covered 600-foot hill. Lacking combat officers and non-coms, Colonel Myers ranged the entire attacking front, leading his outnumbered forces upward in the face of murderous fire concentrated on him. After 14 hours of bitter struggle, the enemy was routed, the hill captured, and the route to the sea secured. Colonel Myers says:

"When a handful of men can help turn the tide of history, just think of the invincible strength of 150 million people working toward a common goal — a secure America! That's what you, and millions of people like you, are accomplishing with your successful 50-billion-dollar investment in United States Defense Bonds.

"Peace doesn't just happen—it requires work. Our troops in Korea are doing their part of the job. You're doing yours when you buy United States Defense Bonds. Together, we can hammer out the peace we're all working for."

* * *

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